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BUREAU OF LAND MANAGEMENT

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FISHERIES AND
WILDLIFE
ASSESSMENT

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March 1995



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March 31, 1995

Dear Reader:

The National Fish and Wildlife Foundation is a non-profit 501(c)(3) organization dedicated to the conservation of fish, wildlife, and plant resources. The Foundation pursues this singular goal through two major efforts: providing matching grants to catalyze public-private partnerships, and producing annual Fisheries and Wildlife Assessments of the budgets and policies of our Nation's major federal natural resource management agencies: the Bureau of Land Management and the U.S. Fish and Wildlife Service (Department of the Interior); the USDA Forest Service (Department of Agriculture); and the NOAA/National Marine Fisheries Service (Department of Commerce).

In preparation for each year's Fisheries and Wildlife Assessment, staff from the Foundation's Conservation Policy Group (CPG) visit every region of the U.S. Fish and Wildlife Service and National Marine Fisheries Service, as well as approximately half of the USDA Forest Service and Bureau of Land Management regions or state offices. CPG staff interview Regional/State Directors and program managers, as well as visit field stations and/or Resource Management Areas. Through this process, CPG staff collect information which has direct and timely relevance to on-the-ground accomplishments, budgetary needs, and resource issues. The Fisheries and Wildlife Assessments are our vehicle to provide that information in an easily readable format, organized around agency budget structures.

Each year, we strive to make the Assessments the most useful documents they can be to address the informational needs and concerns of Congress, Executive Branch decision-makers, and others interested in our Nation's natural resources programs. This year, in light of the serious concern about the Federal deficit, we are making deficit neutral funding recommendations. We are always looking for feedback from our readers as to how we can make the Assessment better. Please do not hesitate to contact us with your ideas.

Sincerely,

Amos S. Eno
Executive Director

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This document was written by Abigail Chipley, Eric Hammerling, and Patrick Joos, with editing by Scott Cameron.

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BUREAU OF LAND MANAGEMENT, MANAGEMENT OF LANDS AND RESOURCES APPROPRIATIONS ACCOUNT
APPROPRIATIONS, NOMINAL DOLLARS (\$000)

<u>ACTIVITY/Subactivity*</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Budget</u>
WILDLIFE AND FISHERIES MANAGEMENT													
Wildlife Management	9,799	10,447	10,152	11,175	12,852	12,938	15,700	22,300	16,940	16,604	17,163	18,291	20,073
Fisheries Management	1,155	1,400	1,460	1,584	1,689	2,000	2,000	2,500	7,184	8,780	6,087	6,064	10,146
Subtotal, Wildlife and Fisheries Mgmt.	10,954	11,847	11,612	12,759	14,541	14,938	17,700	24,800	24,124	25,384	23,250	24,355	30,219
THREATENED & ENDANGERED SPECIES													
	2,650	3,956	3,752	3,397	3,940	4,072	5,200	6,300	10,013	11,181	17,531	18,046	18,347
TOTAL	13,604	15,803	15,364	16,156	18,481	19,010	22,900	31,100	34,137	36,565	40,781	42,401	48,566

CONSTANT DOLLARS (\$000)**

	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Approp.</u>	<u>Pres.Bud</u>
WILDLIFE AND FISHERIES MANAGEMENT													
Wildlife Management	10,616	10,939	10,359	11,042	12,182	11,751	13,652	18,771	13,897	13,380	13,514	13,996	14,927
Fisheries Management	1,251	1,466	1,490	1,565	1,601	1,817	1,739	2,104	5,893	7,075	4,793	4,640	7,545
Subtotal, Wildlife and Fisheries Mgmt.	11,868	12,405	11,849	12,608	13,783	13,568	15,391	20,875	19,790	20,454	18,307	18,637	22,472
THREATENED & ENDANGERED SPECIES													
	2,871	4,142	3,829	3,357	3,735	3,698	4,522	5,303	8,214	9,010	13,804	13,809	13,644
TOTAL	14,739	16,548	15,678	15,964	17,518	17,266	19,913	26,178	28,004	29,464	32,111	32,446	36,116

* In FY 1995, the budget structure for this appropriations account was changed. Wildlife and Fisheries Management was changed to an Activity from a subactivity, and Threatened and Endangered Species became an Activity, having previously been a program element within the old Wildlife Habitat and Fisheries Management subactivity. In addition, some work now carried out under the Land Resources Activity's Riparian subactivity was formerly conducted in Wildlife Habitat and Fisheries Management.

** Determined using the Implicit Price Deflator for Gross Domestic Product, from the Economic Report of the President, February, 1995.

Introduction/Executive Summary

- Introduction
- Executive Summary of Recommendations
- Free Market Solutions:
Providing Incentives and
Cutting Subsidies

INTRODUCTION/EXECUTIVE SUMMARY

It is the mission of the Bureau of Land Management to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.
- *Blueprint for the Future*, April, 1994

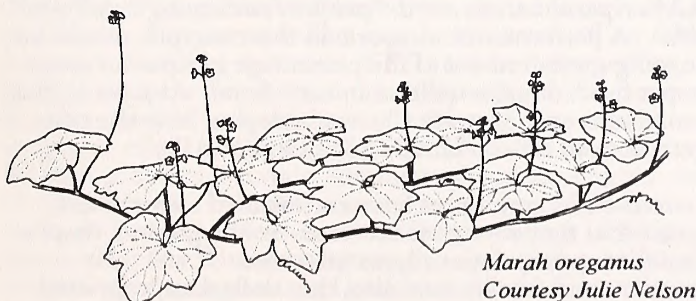
Over this past year, Foundation staff visited more than 10 Bureau of Land Management (BLM) State Offices and Districts to get a more concrete sense of the Bureau's needs at the field level. The bulk of this Assessment's observations and recommendations are based on the insights gained from these visits, in particular, the themes that we experienced over and over again. Without question, this year was one of wrenching transition for the Bureau in many ways. Reorganization, downsizing, shrinking overall budgets, and the adoption of an "ecological approach to management" (January, 1994) were some of this year's boldest highlights, and some of BLM's most contentious actions. These issues and more will be discussed on the following pages.

In light of the increased pressure to control Federal spending, this year the Foundation is making deficit-neutral recommendations for all agencies whose budget we review, including BLM. As a response to the Bureau's needs as well as to the reality of shrinking budgets, the Foundation is making three types of recommendations this year: 1) recommendations for increases; 2) recommendations for offsetting decreases; and 3) recommendations related to program management and structure. Despite the current fiscal atmosphere of budget-cutting, it continues to be our view that in the larger context of the entire federal discretionary budget, natural resource management programs are severely underfunded and under-represented.

This year's relatively modest recommendations should not be viewed as evidence that the Bureau's needs are decreasing. Indeed, many programmatic needs are greater than ever. Simply, the ground rules under which we all operate have changed. The overall Foundation recommendations follow:

NFWF FY1996 RECOMMENDATIONS (changes to the President's Budget)

Activity	Budget Authority	Outlays
Subactivity		
TES Management		
Native Plant Initiative	+\$2,000,000	+\$1,660,000
Bat Initiative	+\$300,000	+\$249,000
Land Resources		
Forestry Mgt.	+\$900,000	+\$747,000
Wild Horses & Burros	+\$750,000	+\$622,500
Energy & Minerals		
Coal Management	-\$500,000	-\$415,000
Workforce & Org. Support		
Administrative Support	-\$3,450,000	-\$2,863,500
Net Recommendations	\$0	\$0



A Treasure Trove of Ecological Diversity

BLM's 272 million acres are the most ecologically diverse lands managed by any Federal agency, with representative plant and animal communities ranging from common to endangered found from the Arctic Ocean to the arid Southwest. Over 150,000 miles of fishable streams, 4 million acres of lakes, and nearly 24 million acres of riparian wetlands create a diverse landscape that supports nearly 3,000 species of wildlife including every native North American big game animal, 23 species of upland game birds, nationally recognized raptor habitats, and over 100 species of native fish that are either federally listed or candidates for listing, along with over 1,300 special status plants. BLM lands attract nearly 500 million wildlife-related recreational visitors per year.

The lands held by the largest of the Federal land managers are not merely ecologically significant, but also these lands provide numerous socioeconomic benefits. In the 12 western states where the majority of BLM lands are located (including Alaska), expenditures for wildlife-associated recreation totalled over \$12.5 billion in 1991 alone. This amounts to 22 percent of all trip-related expenditures for wildlife-associated recreation in the entire United States. In these same states, expenditures for fisheries-related recreation totalled over \$4.7 billion in 1991. The contribution of other ecosystem attributes such as clean water, clean air and aesthetic beauty are difficult to measure, but clearly are significant.

Scientifically based management of Federal lands, especially in the western and intermountain states where Federal lands make up a large portion of the entire landscape, is critical to sustain the land values and diversity mentioned above. Truly, it is a matter of national significance that the health and values of these public lands are protected, but it is unclear as to whether the BLM currently has "the right stuff" to make the grade as ecological stewards.

Finding The Skills Mix for an Ecological Approach

Understanding and managing this great ecological diversity requires diverse and specialized skills. The BLM's mission statement and adoption of an "ecological approach to management" underscore the need for the proper personnel, or training of personnel, to get the job done. Based upon the Foundation's observations, BLM lacks the sufficient staff trained in aquatic ecology, wildlife ecology and plant and forest ecology, as well as the more traditional botany, wildlife management, fisheries management and forest management disciplines to achieve agency goals.

The statistics are telling:

- In FY 1995, the Bureau had 61.5 fishery biologists. That is equal to an average of 1 fishery biologist per 2,400 miles of fishable stream. In the entire state of New Mexico, in which the Bureau manages 12.8 million acres and 283 miles of fishable stream, there is no fishery biologist, or experts in threatened and endangered species. In Nevada, there is only 1 fish biologist in the state office, and only 2.5 to cover the entire BLM ownership of some 49 million acres and 2,463 miles of fishable streams. (see staffing table on following page)
- BLM is responsible for the protection and recovery of over 1,300 special status plants. And yet, the Bureau

INTRODUCTION/EXECUTIVE SUMMARY

only has 40 botanists to cover the plant needs that stretch across all 272 million acres. This is particularly distressing in light of the evidence that a small financial investment in plant conservation would reap large benefits for the resource, and the potential for relatively inexpensively delisting endangered plants, or avoiding listings altogether, is high.

- There are no systems ecologists, community ecologists, landscape ecologists or similar specialists within the BLM, to provide expertise for an ecological approach.
- Because of chronic understaffing, field biologists are prevented from specializing in one area, e.g., bighorn sheep habitat selection or small mammal ecology, which is so essential to good, science-based input to local management decisions. Biologists' time is diluted among a wide variety of reactive activities, thus preventing proactive management actions.

The Foundation recommends that BLM should undertake a skills analysis performed by a team knowledgeable of the skills required for an ecological approach to resource management. It may not be true that current staff can be retrained to fill scarce and highly specialized skill needs. This needs to be evaluated as part of a skills capabilities and needs assessment. This skills analysis would be most beneficial if conducted jointly with the Forest Service, Fish and Wildlife Service and National Biological Service to capitalize upon opportunities to share skills, particularly in areas of adjacent land holdings.

State Staffing for the Bureau's Wildlife, Fish, and Plants Programs

State	Fishery Biologists	Wildlife Biologists	Botanists
Alaska	1	3	0
Arizona	3	19	1
California	3	21	11
Colorado	3	13	1
Eastern States	0	3	0
Idaho	9.5	24.5	5
Montana	1	16	1
Nevada	2.5	20	1
New Mexico	0	24	1
Oregon/Washington	32.5	65.5	14
Utah	2	23	3
Wyoming	4	25	2
Total*	61.5	257	40

* Total does not include one wetland biologist in Colorado and 13 ecologists in Idaho.

Reaching out to its Partners

Despite BLM's huge land holdings, the Bureau cannot (and should not) independently conduct its ecological approach to management. Strategic planning efforts must cross District, State, and other political or administrative boundaries. Recent examples of such efforts are the President's Forest Plan (FEMAT), and the current interagency regional planning efforts occurring within the upper Columbia Basin (Interior Columbia Basin Ecosystem Management Project). Other Federal, State, private, Tribal, and other land holders are all stakeholders in efforts ranging from interjurisdictional watershed restoration for fisheries, to protecting interspersed habitats for migratory birds, to maintaining clean water and air for our cities and towns. In order to put into perspective the importance of Federal land management efforts to the health of the western landscape and prosperity of its citizens, we present the following table of Federal acreage in the 12 BLM states, from BLM's "Public Land Statistics, 1993."

Federal land ownership in 12 western states (FY 1991)

State	Federal Acreage* (in thousands)	Percentage of Total Acreage in State
Alaska	248,021	67.9
Arizona	34,308	47.2
California	44,707	44.6
Colorado	24,154	36.3
Idaho	32,614	61.6
Montana	26,142	28.0
Nevada	58,265	82.9
New Mexico	25,203	32.4
Oregon	32,291	52.4
Utah	33,661	63.9
Washington	12,080	28.3
Wyoming	30,476	48.9

* excludes trust properties

Another example of one of the Bureau's ongoing partnership efforts is "Bring Back The Natives (BBTN)," a watershed-based fisheries restoration initiative, which was built from a partnership between the BLM, Forest Service, the Foundation, Trout Unlimited, and numerous private contributors. It was initiated, in part, because many streams in the West have their headwaters on Forest Service lands and tailwaters on BLM lands.

Despite the mutual interest of these agencies in the health of these streams, there had been very few cross-agency efforts to protect or restore mutual resources. Since its beginning in 1991, BBTN has initiated restoration activities on 60 specific streams in 16 states. Such an effort could not have been successful if it had taken the traditional "this land is my land, this land is your land" approach. Rather than being deterred by overlapping jurisdictional boundaries, the program has focused on boundaries shared by the resource.

The Bureau needs to continue to reach out to other Federal agencies, the states, and the public to protect our shared natural heritage and to stretch dollars as Federal dollars become more and more scarce.

Accountability and Performance Standards

In last year's Fisheries and Wildlife Assessment, we critiqued BLM's adoption of a "big pot" funding scheme for the State and District Offices without an adequate system of tracking accomplishments and accounting for expenditures. In the FY 1995 budget, BLM has collapsed budget activities and subactivities to more general funding accounts, and reduced the oversight functions of the Washington Office resource program staffs. As a counterbalance, to maintain fiscal integrity, BLM needs to establish an automated tracking and reporting system that can generate periodic progress reports. Also, quantifiable performance standards need to be developed and used to ensure that resource goals are being met. For example, the "Riparian-Wetlands Initiative for the 1990's" is founded upon the goal of ensuring that 75 percent of BLM's riparian areas are in "proper functioning condition" by 1997. A performance measure, in this example, should be an ongoing measurement of the percentage of riparian areas in proper functioning condition in each State. At present, this information is only sporadically available, but how else can progress toward this initiative's goals be shown?!

Numerous BLM employees have complained over the last few years that they rarely see increases on the ground, despite the fact that appropriations have increased. It was their assumption, and frankly ours also, that dollars appropriated

to fish and wildlife and TES programs have been skimmed-off to cover expenses of programs that received budget cuts. Without better tracking and reporting mechanisms, this situation may continue virtually unremedied. It is the Foundation's impression that in absence of the assurance that appropriated dollars will reach the ground, Congressional advocates for the Bureau will become less and less apt to provide base increases, and will concentrate their efforts on earmarking specific increases. Once the Bureau's hands are tied by earmarks, it will be unable to function with any flexibility at all to meet its goals.

The Foundation does not suggest that the Bureau's hands should be tied; we are simply calling for some balance here. If BLM pursues an ecological approach as a goal, then there should be guidelines as to how resource managers can chart their progress toward that goal. A major need in the development of an ecological approach to management is an integrated, cost-effective information management and tracking system that could be utilized by managers at all levels to plan work, request funding, and track both spending and accomplishments. In addition, this tracking system should include information on projects completed as well as on trends in ecosystem health.

On a positive note, the Foundation has been informed that BLM's Colorado State Office has developed a prototype ecotracking system that has potential for tracking renewable resource management efforts (forestry, range, soil and water, and fish and wildlife). The Bureau should follow this lead and make such a tracking system mandatory in every State Office. BLM is a public agency, it should be accountable to its public.

Truth in Budgeting

The BLM is currently downsizing its operations to implement the Administration's policy to reduce the federal workforce as outlined in the National Performance Review. At the same time, the Administration is attempting to implement an ecological approach to land management which, by its very nature, will be labor-intensive. Because of this fact, the Bureau must scrutinize each and every Full Time Equivalent (FTE) to ensure that it is mobilized in support of the Bureau's ecological goals.

In the past few years, the Fisheries, Wildlife, and TES programs have received budget increases, but relatively few FTE's have accompanied those increases (compared to other agency functions). In the FY 1996 President's Budget, BLM appears to have turned the corner a bit. Many of the programs that are reviewed in this Assessment -- with notable exceptions in the Forestry and Wild Horses and Burros programs -- are proposed for moderate FTE increases in FY1996. For the most part, the increases in personnel do reflect the Bureau's commitment to move toward an ecological approach to resource management.

However, the reader must be aware that appearances can be deceiving. Foundation staff have been alerted from numerous sources that just as dollars may be skimmed-off to cover programs receiving decreases, FTE's can be "charged" to programs where they are not primarily utilized. For example, in a Resource Management Area a mineral resources employee might be "charged" to the FTE allocation of the Wildlife program if certain administrative requirements can be rationalized. This situation exists, in too many cases, because the State Offices are unwilling to change or retrain personnel. The Foundation strongly supports the training, or retraining, of such personnel in this situation. If retraining

would be ineffective, the Bureau must bite the bullet, make personnel changes, and honestly reflect its FTE increases and decreases.

In FY 1996, the Administration recommended increased funding for BLM's fish and wildlife management programs and its threatened, endangered, and sensitive species programs to accomplish the following: 1) ensure the BLM implements a more balanced approach to managing its lands; 2) ensure the BLM implements its policy of ecosystem management; and 3) become proactive and address issues on the horizon before they become full-blown natural resource crises. Unless employment levels are consistent with the Administration's funding and policy recommendations, the Administration will discover it is handicapped in any attempts to effectively implement those policies. Failure of fish and wildlife programs to meet their goals will raise serious questions as to what the Bureau is accomplishing with these funding increases. Similar to the aforementioned issue of accountability, this lack of ability to follow through on commitments will eventually, or rapidly, undermine the credibility of the Bureau's fish, wildlife, plant, TES, range-land, riparian, and other efforts.

A second personnel issue brought to our attention involved seasonal employment. Given the controls put on FTE's by the Administration, managers are less likely to hire seasonal employees. It has been brought to our attention that many efforts such as inventory, monitoring, habitat development, maintenance, administrative duties, etc. are increasingly reliant upon seasonal and temporary workers. These temporary and seasonal workers, in addition to volunteers, are also quite valuable for providing support in growing emphasis areas such as rare plant surveys and monitoring neotropical migratory birds. The Foundation believes that perhaps seasonal employees hired for field work should not count against the agency FTE ceiling. This question will be analyzed in greater depth in a separate FY 1996 Fisheries and Wildlife Assessment dedicated to management issues.

Building on Recent Efforts

Under Fish & Wildlife 2000, initiated in 1987, a number of National Strategy Plans were developed to describe more specific on-the-ground objectives, management needs, and opportunities. These strategy plans were prepared by teams of specialists, including representatives from conservation organizations and other agencies. These plans are:

Fish

- Anadromous Fish Habitat Management
- Resident Fish Habitat Management
- Special Status Fishes Habitat Management

Wildlife

- Waterfowl Habitat Management
- Waterfowl Environments Today & Tomorrow
- Bighorn Sheep Habitat Management
- Raptor Habitat Management
- Watchable Wildlife
- Nongame Migratory Bird Habitat Conservation
- Upland Game Bird Habitat Management
- Big Game Habitat Management
- Desert Tortoise Habitat Management

Plants

- Rare Plants and Natural Plant Communities

Administrative

- Wildlife and Fisheries Information System
- Career Management Team Findings for Wildlife and Fisheries Biologists
- Strategy Plan for Training Personnel in BLM's Wildlife, Fisheries, and Special Status Plants Program
- Staffing for the BLM Wildlife and Fisheries Program
- Investing in the Public Lands

INTRODUCTION/EXECUTIVE SUMMARY

Although the goals of Fish & Wildlife 2000 were originally directed at management of individual species or species groups (i.e. desert bighorn sheep, upland game birds, etc.), most of the individual strategic plans incorporated ecological principles and looked at management goals for entire ecosystems (e.g. desert shrub, willow-cottonwood riparian, etc.) The 18 strategic plans completed so far provide a foundation for implementation of the BLM's mission, vision and strategic goals of restoring and maintaining the health of the land. As BLM moves toward an ecological approach to management, these plans can help guide local and regional efforts toward integrated resource planning at the ecosystem level. The Foundation strongly suggests that these ground-up efforts not be abandoned.

BLM Reorganization

Despite the obvious values of BLM lands, the Bureau is going through some growing -- or rather, shrinking -- pains.

In response to the National Performance Review, Executive Orders on government efficiency, and streamlining initiatives, the BLM implemented a new organizational structure for its Headquarters Office in Washington, D.C. effective December 26, 1994. Restructuring is designed to reduce the number of supervisors by increasing the supervisor to supervised ratio to 1:15, eliminating four Deputy Assistant Director positions, and reducing the number of GS-14 and GS-15 positions. Through the year 2000, the Bureau will continue to reduce FTE's through retirement/buyout, eliminating vacant positions, or reductions in force to meet its downsizing targets. In addition, by 1998 the Bureau will redirect 655 FTE's from State and District Offices to Resource Areas to maximize the effectiveness of the Bureau's on-the-ground presence.

As part of the reorganization, natural resource management is currently divided into two Assistant Director staffs: Resource Use and Protection; and Resource Assessment and Planning. Within these two staffs are eight skill groups with group members simultaneously assigned to eleven interdisciplinary work teams. Fish, wildlife, and other resource issues may be fielded by any of these or other teams depending upon the nature of the issue. At the state level, individual states are independently reorganizing to meet agency objectives, including increased efficiency and streamlining.

The Foundation has expressed some concerns to the Bureau on how the reorganization might affect Bureau operations, and its contacts with its many publics. The Bureau has addressed some of the concerns the Foundation has brought to its attention. For example, the Teams have completed mission statements, and it is our hope that these were coordinated with one another to avoid overlapping responsibilities and confusion. In addition, the Bureau has established initial contact people for programs or initiatives such as *Partners in Flight* or PACFISH, but there are still bugs in the system.

A few of the Foundation's concerns that we believe have been inadequately addressed follow:

How does the new headquarters structure translate to the State/field level?: Headquarters and field office organizational structures are inconsistent and highly variable between states. The Foundation is concerned over the apparent lack of consistent planning or coordination between the headquarter's reorganization plan and the reorganization of the field offices. We are concerned that this will result in a break-down in communication and coordination at the state level as well as between headquarters and the states. The Foundation feels that this will compound rather than enhance the Bureau's ability to implement an ecologically-based approach to management which by definition requires effective communications at all levels of the Bureau and with the public.

Further Loss of Accountability: A concern expressed earlier in this chapter regards the lack of accountability for how fish and wildlife dollars and accomplishments are tracked at both the state and national levels. The BLM reorganization increases our concern for the agency's ability to develop and achieve coordinated ecosystem goals across state boundaries, and monitor progress toward those goals within the current budget framework. We repeat our earlier recommendation on the need for an automated budget and project tracking system, as well as quantifiable and meaningful performance standards.

Unclear Roles and Responsibilities for Resource Assistant Directors: Under the revised headquarters organization, two Assistant Directors are responsible for providing leadership and management direction for all resource management activities within the agency. The Foundation is concerned that the existing structure does not lend itself to effective implementation of an ecosystem-based approach to resource management. For example, six different teams, spread between the two "Resource" Assistant Directors are responsible for providing leadership and direction on various components of ecosystem management to 200 BLM field offices. The Foundation feels that if BLM is serious about implementing an ecological approach effectively, all ecosystem related activities from assessment and planning to implementation should be housed under a single Assistant Director.

Despite some of the concerns we put forward regarding the reorganization, the Foundation wishes to commend the Acting Director of the Bureau of Land Management, Mike Dombeck, for his outstanding leadership and efforts to move the Bureau toward the 21st Century. As some have noted, the Bureau first had to come into the 20th, and we believe it has already achieved this goal under Mr. Dombeck's charge. Mr. Dombeck has made it his goal to push, pull, cajole, and lead the Bureau toward being a resource management agency based upon solid scientific management, enhanced professionalization, and an ecological approach. We continue to support his many, tireless efforts.

Executive Summary of Recommendations

APPROPRIATION: MANAGEMENT OF LANDS & RESOURCES (No Net Increase)

Activity:

Wildlife & Fisheries

Overview: The Wildlife and Fisheries Management Activity is responsible for numerous activities covered under the Fish & Wildlife 2000 initiative discussed in the introduction. In the FY 1996 President's Budget, this activity received an increase of \$5.5 million. Of this proposed increase, \$4 million is dedicated to the Department of the Interior's multi-agency Recreational Fisheries Initiative.

The increase of \$1.5 million in Wildlife Management will be used to improve wildlife habitat conditions in conjunction with efforts to restore rangeland health as well as implement existing and new wildlife initiatives including Masters of the Night Skies -- a bat conservation initiative, Watchable Wildlife -- wildlife viewing and education; Partners in Flight -- neotropical migratory songbirds; Waterfowl Environments Today and Tomorrow -- a waterfowl and wetland strategy; Upland Game Birds; Seeking Common Ground -- resolving livestock/wildlife conflicts, and Birds of Prey -- the raptor initiative.

NFWF Recommendations: (No Change to President's Budget)

Wildlife and Fisheries Management

The Foundation would like to see the Bureau develop and implement a set of more meaningful performance measures for its Wildlife Management and Fisheries Management activities. As alluded to in the introduction to this Assessment, the Bureau needs to improve tracking and reporting on the qualitative achievements from its investments. Although this recommendation is made in this particular chapter it has relevance to all of the Bureau's program areas.

Wildlife Management

The Foundation strongly supports the increase of \$1.5 million and 19 FTE's over the FY 1995 enacted level requested in the FY 1996 President's Budget for Wildlife Management. This proposed increase will be used to increase the Bureau's wildlife habitat evaluation efforts by 400,000 acres, its habitat improvement actions by 100,000 acres, and will increase the number of wildlife conservation projects undertaken by 50.

Fisheries Management

1) The Foundation strongly supports the increase of \$4 million over the FY 1995 enacted level requested in the FY 1996 President's Budget. The proposed funding increase will be used to improve habitat on an additional 200 miles of stream, and 3,000 acres of lakes and reservoirs in support of the Department of the Interior's Recreational Fisheries Initiative.

2) The Foundation recommends that 10 of the FTE's proposed as increases for the Riparian Subactivity be certified in either fisheries biology or aquatic ecology. These FTE's should be dedicated to the mutual goals of the Riparian Initiative and to fisheries management. This will be important to providing sorely needed aquatic expertise to the Bureau, and to ensure that the Riparian Initiative takes a broad ecological approach, rather than a terrestrially-based approach to riparian restoration. See the chapter titled Riparian Subactivity for more information on this initiative and recommendation.

Activity:

Threatened and Endangered Species

Overview: Funding for the Threatened and Endangered Species Activity remains constant from 1995 at \$18.3 million. Included within that total is funding for the Native Plant Conservation Initiative, PACFISH implementation, desert tortoise recovery, northern spotted owl recovery and monitoring, as well as funding for special status fish, plants and special habitats.

NFWF Recommendations: (+\$2.3 million)

Special Status Plants

The Foundation recommends an increase of \$2,000,000 to the FY 1996 President's Budget for threatened, endangered, and sensitive plant recovery and protection efforts. The Bureau joins the National Park Service, Fish and Wildlife Service, the USDA Forest Service, and the USDA Natural Resource Conservation Service as a lead agency in "The Roots of Conservation -- the Federal Native Plant Initiative" (see write-up on this Initiative in the chapter dedicated to Plant Conservation later in this document).

Bats: Masters of the Night Skies

The Foundation recommends an increase of \$300,000 above the President's Budget request of \$18.3 million for the Threatened and Endangered Species Activity. This \$300,000 should be transferred, under a Memorandum of Agreement, to Bat Conservation International for the following purposes: 1) \$150,000 should go to support two full-time positions who will be dedicated to providing technical support to Federal and state agencies on bat conservation techniques; and 2) \$150,000 should go to challenge cost-share (multi-partner) projects in support of the Bats and Mines Project. These funds will be matched by states, non-government organizations, and other Federal agencies.

Activity:

Land Resources

Overview: The Land Resources Activity contains the following Subactivities: Soil, Water & Air; Rangeland; Forestry; Riparian; Cultural Resources; and Wild Horses & Burros. In FY 1996, the President's Budget includes increases in the Land Resources activity of \$4.48 million and 66 FTE's overall. Funding for ongoing initiatives includes a \$2.7 million increase for inventory, management and restoration of riparian, wetland and aquatic areas to achieve healthy and productive habitat conditions.

NFWF Recommendations: (+\$1.65 million)

Rangeland Management Subactivity

The Foundation recognizes the importance and the progress being made in completing rangeland health assessments. These assessments are central to determining if current management practices are effective and to resolving resource conflicts. More important, however, is monitoring grazing allotments to ensure that permittees are complying with the law. The Foundation recommends that BLM make working with ranchers to ensure proper grazing practices its highest priority.

INTRODUCTION/EXECUTIVE SUMMARY

Forestry Management Subactivity

The Foundation recommends an increase of \$900,000 over the FY 1996 President's Budget that would restore funding to the FY 1995 level. This funding will be essential for BLM's Forestry Management program to pursue the goals outlined in *Forests: Our Growing Legacy*, a plan that will benefit fish and wildlife through reforestation, inventories, multiple use set-asides and addressing unauthorized use. The Foundation supports the Forestry Management's program's activities to establish old-growth management areas, maintain and create habitat for cavity nesters, and improve riparian areas and stream habitats and recommends increased cooperation between Forestry Management Staff and the Wildlife and Fisheries Habitat Management Staff to carry out this work.

Riparian Management Subactivity

1) Last year, BLM conducted a well-attended and successful training session for managers and ranchers on determining riparian area condition. The Foundation recommends that BLM increase training sessions and make a concerted effort to get more private landowners involved. One possible incentive would be to offer ranchers scholarships, perhaps in cooperation with NGO's or universities, to attend BLM-sponsored training sessions. Increasing the expertise of the private sector will benefit BLM's efforts to protect riparian areas by placing all the players on a level field.

2) There is strong support to make BLM's riparian health assessment process the standard for all riparian areas in the Western States. Getting agreement among private industry, state and federal agencies, and environmental groups on the health of a riparian area and what needs to be improved or restored is an important first step to making on-the-ground progress. This is particularly important in the West where riparian problems almost always involve the lands of several federal agencies, the State, and private individuals. The Foundation recommends that the BLM take the lead in organizing an interagency effort to examine riparian condition assessment processes. In gaining the input of the other federal agencies and private landowners, BLM's current process can be fine-tuned and potentially adopted as the federal standard for assessing riparian conditions.

3) The Foundation recommends that the people hired to fill 10 of the FTE's proposed in the FY 1996 President's Budget as increases for the Riparian Subactivity be certified in either fisheries biology or aquatic ecology. These FTE's should be dedicated to the mutual goals of the Riparian-Wetland Initiative and to fisheries management. This will be important to providing sorely needed aquatic expertise to the Bureau, and to ensure that the Riparian Initiative takes a broad ecological approach, rather than a terrestrially-based approach to riparian restoration.

4) The Foundation strongly supports the increase of \$2.5 million in the FY 1996 President's Budget and believes that the increase shows a strong commitment to achieve the goals outlined in the BLM's Riparian-Wetland Initiative for the 1990's. While the needs BLM has identified substantially exceed the amount available in the current budgetary climate, the Foundation recognizes that BLM has turned the corner, so to speak, in addressing riparian concerns. The Foundation recommends that the BLM focus its efforts primarily on assessing riparian health to meet the goals of the Riparian-Wetland Initiative. Knowing what's out there is central to making decisions of how and where to proceed with restoration activities. To prevent incurring substantial future costs, the Foundation also recommends that BLM target its restoration efforts towards "functioning-at-risk" areas.

Wild Horse & Burro Subactivity

With a burgeoning number of wild horses and burros, the decrease in the FY 1996 President's Budget of \$750,000 will delay BLM in reducing the horse and burro populations and may result in relatively greater damage to fragile rangeland ecosystems. The Foundation recommends that funding be restored to the FY 1995 level, or \$16,920,000. This will allow BLM to remove an additional 1,200 horses, bringing the total to 8,700 animals removed in FY 1996.

Activity: Energy and Minerals Mgt. Subactivity: Coal Management

Overview: BLM manages about 33 percent of all coal resources in the U.S. and indirectly affects the use of at least an additional 10 percent. Approximately 60 percent of western coal is federally owned and an additional 20 percent is managed or affected by the Federal government. There were 103 producing Federal leases at the end of 1994, a total of 27 coal preference right lease applications (PRLA's) remain.

NFWF Recommendation: (-\$500,000)

Due to the reduced workload which is referenced in the BLM Congressional Justification as "low priority," the Foundation recommends a cut of \$500,000. This cut would represent a reduction in the Coal Management Subactivity of 6 percent below the FY 1996 President's Budget request.

Activity: Workforce and Organizational Support Subactivity: Administrative Support

Overview: This Activity is dedicated to providing support to all BLM programs and to develop, maintain and promote a culturally diverse workforce in the Bureau. This Activity is recommended in the FY 1996 President's Budget for an increase of \$3.7 million over the enacted level in FY 1995.

NFWF Recommendation: (-\$3.45 million)

NFWF recommends a decrease of \$3.45 million to the President's Budget request for two major reasons: 1) based upon the Bureau's reorganization, efforts to reduce paperwork, streamline printing, and facilitate the ease of small procurements, it follows that less administrative support should be necessary; and 2) the Bureau has recommended a reduction of 11 FTE's in this Subactivity. It makes intuitive sense that this is a signal that some of the activities of Administrative Support are of a lesser priority. This recommended "cut" of almost 7 percent would still leave \$250,000 of the proposed increase untouched.

Introduction

It is axiomatic in economics that people do more of what is subsidized and less of what is taxed. By paying attention to economic incentives, we can use the economic system to achieve behavioral changes without relying on "command and control" regulatory mechanisms that are increasingly viewed as infringing on private property rights. What follows are recommendations for a set of economic tools that can be used to elicit voluntary behavior that will be more protective of the environment, along with some recommendations for reducing subsidies that are harmful to the environment.

Providing Economic Incentives

Allow for a Federal tax credit of that portion of an individual's real estate taxes that is associated with wetlands maintained or restored to their natural condition. Real estate taxes are currently tax deductible. By increasing the tax advantage to a tax credit, it essentially eliminates the "carrying cost" to the private sector of protecting wetlands in their natural state, and thereby lessens the risk of regulatory conflict that might lead to claims of regulatory takings under the Fifth Amendment.

Allow for a Federal tax credit of that portion of an individual's real estate taxes that is associated with either designated endangered species critical habitat maintained or restored so as to provide essential habitat characteristics for the species, or with habitat used for the establishment of experimental populations of endangered or threatened species. If society provides economic incentives to people to protect endangered species, then they will be more willing to do it.

Provide for a personal income tax charitable deduction of up to \$5,000 for qualified land management expenses, as long as such expenses are in furtherance of an approved conservation plan for the property. If 100,000 land owners each spent \$5,000 on approved conservation plans on five acres of their land, the tax loss to the Treasury would be $100,000 \times \$5,000 \times 28\%$ marginal tax rate = \$140 million. This is only a fraction of the \$235 million in appropriated funds requested in the 1996 President's budget for Federal land acquisition of roughly 132,000 acres. However, unlike Federal fee title acquisition, this proposal does not remove land from the tax rolls, not would it exacerbate the operations and maintenance backlogs of the Federal land management agencies. It would improve fish and wildlife values on nearly four times as much private land as Federal agencies would acquire in fee title, agencies that then would likely not have the staff and funding resources to manage that acquired land effectively for those fish and wildlife values.

Reform Federal estate tax law so that the decedent's undeveloped land is appraised for estate tax purposes based on its current use, rather than its highest and best (i.e. developed) use. This would lessen pressure on the decedent's beneficiaries to sell undeveloped land to raise cash to pay estate taxes, thereby increasing the odds that the beneficiaries would be able to maintain the undeveloped land in the same state as the decedent, with the associated benefits for fish and wildlife.

Reducing subsidies harmful to the environment

With the important exception of well-analyzed and justified situations where there is a need to remove dead, disease-ridden, or severely insect-infested timber stands which, if left standing, would threaten the ecology of surrounding areas, the Federal government should eliminate below-cost timber sales on Federal land, annually saving approximately \$25-50M, conservatively estimated. Timber sales may often be

uneconomic when they occur in steep terrain that is expensive to access. These are the same timber harvest conditions that are likely to cause water quality and fishery problems, such as siltation of salmon spawning habitat. Below-cost timber sales are sometimes justified as economic development tools for stressed rural communities. However, the government should not conduct a business-type activity in a way that deliberately loses money. If it is appropriate to inject funds into local communities to spur their economies, then this should be done directly with appropriated funds, preferably through fully funding Federal payments in lieu of taxes. The Federal timber sales program is not an appropriate vehicle to achieve local economic development objectives.

The Federal government provides economic incentives to people to invest in areas with high natural disaster potential, by providing financial assistance when they incur flood losses. This shifts private sector risks and costs to the public at large. Flood losses have averaged \$3 billion annually, but the Midwest Flood of 1993 produced damages estimated at between \$12-16 billion, and resulted in \$6.1 billion in Federal payments to the disaster area. To avoid such future exposure for Federal taxpayers, the Federal government should (1) aggressively implement the National Flood Insurance Reform Act of 1994 to tighten eligibility requirements for floodplain insurance by increasing the waiting period for activation of flood insurance policies from 5 to 30 days, (2) deny disaster payments to those who refused to purchase flood insurance, and (3) adjust flood insurance premiums to reflect loss history. These changes would not only save taxpayers money, and protect other programs that might otherwise be cut in order to offset the cost of future flood disaster payments, but also would discourage inefficient economic investment in valuable fish and wildlife habitats such as wetlands, which tend to be found in flood-prone areas. Even if these reforms had only reduced the 1993 Midwest Federal flood-related payments by 10%, that amount would have more than exceeded the annual operating budget of the Fish and Wildlife Service.

The 1995 Farm Bill should subject USDA Sugar Program participants to Swampbuster, or better yet, completely eliminate the system of non-recourse loans and domestic market allotments. In terms of Swampbuster, apply it to growers who receive payments based on price supports paid to processors of sugar cane. Domestic sugar growers are supported by Federal limits on sugar imports. These constraints on supply artificially increase prices at the expense of American consumers and manufacturers. They also cause economically marginal sugar producers to stay in the business, often to the detriment of surface and drinking water quality, and wetlands habitat in the affected area. This has been evidenced most markedly in South Florida, where it has been estimated that elimination of the Federal sugar program would reduce sugar production by 20%.

Eliminate the discretionary appropriations for the USDA/APHIS Animal Damage Control Program, with an annual savings of \$36M, or impose user fees to cover the cost of services provided by the government. The program indirectly subsidizes some ranchers and farmers, providing them a cost-advantage over their competitors. Without even addressing the issue of whether the program itself is a humane activity, the government should not subsidize one set of livestock operators over other livestock operations, particularly through a program that has frequently caused problems with incidental take of non-target animals, such as bears, eagles, and even animals protected under the Endangered Species Act. Dealing with predator-caused livestock losses is a cost of doing business that should be borne by the livestock operator.

Existing Non-regulatory Programs That Work Well

USDA has two excellent non-regulatory programs that provide significant benefits for fish and wildlife resources: the Conservation Reserve Program (CRP) and the Wetlands Reserve Program (WRP). CRP allows farmers to take highly erodible land out of production for 10-15 years, in return for Federal payments, provided that soil conservation measures are implemented on the land. These conservation measures could include planting trees or cover vegetation. The mandatory spending of the CRP program reduces surplus crops, curtails soil erosion and associated water quality problems, and produces wildlife habitat. The WRP also allows farmers to sign up what is usually agriculturally unproductive wetland areas, which are then restored to maximize their wetland values. WRP is also a mandatory spending program in a sense, although the appropriations committees annually limit the acreage signup for this permanent easement program. The Foundation strongly supports the President's 1996 budget request to enroll 300,000 acres of wetlands into the WRP. CRP requires reauthorization in the 1995 Farm Bill. WRP is currently authorized through the year 2000, but may well be reopened during the debate on the 1995 Farm Bill. The Foundation believes both programs should continue as examples of sound agricultural and economic policy.

USDA also uses easements to permanently protect wetlands on farms that are part of the Farmers Home Administration portfolio of lands that have come under its management through loan foreclosure.

Finally, the small but growing Partners for Wildlife Program in the U.S. Fish and Wildlife Service has done an exceptional job of enlisting landowners in voluntary and cooperative habitat restoration projects on private lands. The landowners, working together with state and local governments and local conservation groups, even contribute about half the in-place costs associated with this voluntary restoration program. Partners for Wildlife is proposed to receive a \$2 million increase in the President's 1996 budget, and the Foundation recommends that this increase be doubled. The Federal government needs to encourage programs such as this which achieve national environmental objectives through voluntary cooperation with private landowners, rather than in conflict with them.

Appropriation: Management of Lands and Resources

- Activity: Land Resources
 - Subactivity: Rangeland Management
 - Subactivity: Forestry Management
 - Subactivity: Wild Horse and Burro Management
- NFWF Recommendations

ACTIVITY: LAND RESOURCES

(All dollars in thousands)

Activity Subactivity	FY 1995 Enacted	FY 1995 FTE's	FY 1996 Pres. Bud.	FY 1996 FTE's	NFWF Recom.
Land Resources					
Soil, Water, Air Management	\$17,386	290	\$19,063	307	No Rec.
*Rangeland Management	47,669	900	49,983	928	Support P.B.
*Forestry Management	6,753	96	5,872	84	+\$900
*Riparian Management	14,014	220	16,705	256	Support P.B.
Cultural Resources Management	12,037	158	12,620	164	No Rec.
*Wild Horse & Burro Management	16,920	162	16,345	153	+\$750
TOTAL, Land Resources	\$114,779	1,826	\$120,588	1,892	+\$1,650

*The Foundation makes recommendations for these Subactivities

Budget Description

The **Land Resources Activity** contains six Subactivities: Soil, Water, Air Management; Rangeland Management; Forestry Management; Riparian Management; Cultural Resources Management; and Wild Horse & Burro Management. For more detailed information, please see Section 3, pages 1-41 of the BLM FY 1996 Congressional Justification. The Foundation does not make recommendations for Soil, Water, and Air Management or Cultural Resources Management.

Soil, Water, and Air Management protects watershed and air quality on public land. This is accomplished by establishing baseline data on high priority areas; monitoring conditions and trends; and implementing watershed best management practices (BMP's) in order to minimize the harmful effects of erosion, saline discharges, and flood and sediment drainage.

Rangeland Management funds are directed toward protecting the health, diversity, and productivity of rangelands. Activities such as inventory, monitoring, and development of vegetative objectives contribute to wildlife habitat, meet wild horse and burro needs, and provide forage for livestock.

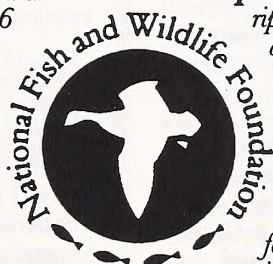
Forestry Management is responsible for the management, development, and protection of 45 million acres of forest land in 11 western States and Alaska. Of this amount, an estimated 9 million acres are forest lands used for commercial purposes, while 36 million acres are woodland. While timber continues to be a focus of this program, timber

production objectives are now considered in concert with the need to protect biodiversity, water quality, and overall forest health.

Riparian Management's objective is to restore and maintain riparian-wetland areas in order to achieve "proper, functioning" condition for 75 percent or more by 1997. The nearly 24 million acres of land classified as riparian or wetland support some of the most diverse plant and animal communities found on public land. Because of their relative scarcity, these areas are often degraded by other land uses.

Cultural Resources Management is responsible for the management of the Federal Government's largest, most varied, and scientifically important body of cultural resources. This program consults with Native Americans to fully incorporate their cultural and religious concerns in the use of public lands; provides educational programs to the public, safeguards paleontological and cultural resources for scientific study; and promotes partnerships with State and local government, individuals, and private groups to share information and support primary education.

Wild Horse and Burro Management oversees wild horse and burro populations and their habitat and ensures the humane care and treatment of excess animals. There are currently 42,400 wild horses and burros on public lands, most of which occupy rangelands common to wildlife and livestock. To maintain an ecological balance, BLM employs fertility control measures, as well as offering up young wild horses for adoption.



ACTIVITY: LAND RESOURCES

SUBACTIVITY:

Rangeland Management

Introduction

During annual field visits to BLM rangelands this past fall, Foundation staff were continually confronted with the inconsistency between Rangeland Management's goals and what is actually happening on-the-ground. This inconsistency comes not from a lack of willingness on BLM's part to implement management actions, but from the continual problem of too little staffing to adequately manage grazing allotments. Foundation staff discovered first-hand opened gates and livestock grazing in sensitive areas, in clear violation of mutually agreed upon management plans. Without adequate supervision, protecting rangelands from degradation is near-impossible.

Consequently, the Foundation was pleased to see the recommended increase of 28 FTE's in the FY 1996 President's Budget to enhance the Bureau's efforts to monitor Allotment Management Plans (AMP's). Twenty of these twenty-eight are seasonal FTE's and will be used primarily to complete additional monitoring studies and rangeland health assessments. Unfortunately, monitoring and use supervision of grazing allotments is a year-long activity that requires substantial FTE commitment. With approximately 22,000 grazing allotments, thousands of which encompass riparian areas, this increase is merely one small step in the right direction.

The recommended increase of \$1.9 million in the FY 1996 President's Budget will be used to expand monitoring and assessment efforts, complete additional interdisciplinary activity plans, and incorporate management actions such as terms and conditions on grazing permits. The proposed increase will allow BLM to:

- Complete rangeland health assessments on an additional 2 million acres, bringing the coverage of assessments completed to 7 million acres.
- Accelerate efforts to assess the condition of rangelands by completing monitoring on an additional 400 allotments, bringing the total of monitored allotments to 6,200.
- Prepare and/or revise 20 additional interdisciplinary activity plans

In addition, BLM will implement improvement projects such as fencing to protect key resources and facilitate livestock management, vegetative improvements to enhance riparian areas, and water development. Approximately \$3.5 million will be directed to improving upland rangelands in support of riparian area objectives.

The Foundation commends the Rangeland program for its continued efforts in reducing conflicts with private landowners. One extremely successful interagency effort is "Seeking Common Ground," a national partnership that brings together diverse, often conflicting interests to make long-term improvements in the West's rangeland ecosystems. Pilot projects in seven states have forged partnerships between wildlife and livestock interests as well as federal, state, and local resource management agencies. Each demonstration area combines public participation with scientific management to improve conditions for watersheds, livestock, and outdoor recreation. Examples of projects follow.

SEEKING COMMON GROUND PROJECTS

Elk Habitat Partnership, Arizona

This project established a process to create and strengthen partnership committees statewide in Arizona. These partnerships address the use of both public and private lands to improve Arizona's elk habitat and reduce conflicts with habitat uses.

Axial Basin Coordinated Resource Management, Colorado

Located in north-central Colorado, the Axial Basin demonstration is developing a grazing system and water developments that will improve vegetation to benefit wildlife and restore riparian areas along Maudline and Boxelder Creeks. These projects will enable landowners to keep livestock out of river bottoms and off critical deer winter range.

Devil's Kitchen, Montana

Located north of Helena and south of Great Falls, the Devil's Kitchen project promotes cooperation among western ranchers, sportsmen, outfitters, and federal and state agencies. The project benefits the 2,500 herd of elk, as well as bighorn sheep, mountain goats, and bear by limiting public hunting access.

Bruneau River, Nevada and Idaho

Located in two states, northeast Nevada and southwest Idaho, the Bruneau River project includes both species re-introduction and habitat enhancement. More than 180,000 acres of public and private land are involved in an effort to cooperatively re-establish native wildlife, improve upland vegetation and riparian communities, and maintain livestock grazing in the Bruneau River basin.

Blue Mountains Elk Initiative, Oregon

This assemblage of projects, located in northeast Oregon, is designed to attract, habituate, and eventually redistribute elk to public lands, away from private ranches. The projects focus on enhancing forage and habitat security on public lands, thereby minimizing damage to private ranches throughout the area.

Monroe Mountain Livestock/Big Game Demonstration Area and Ecosystem Management Pilot, Utah

Located in south-central Utah, the Monroe Mountain project encompasses 320,000 acres of state, federal, and private lands. The project is based on the concept that solutions to conflicts can emerge from using ecosystem management as a tool. The focus is on improving cooperation between livestock and wildlife interests; applying scientific management to improve resource conditions; supporting elk management; sharing technology and creative solutions; and supporting local rural development efforts.

Upper Muddy Creek/Red Rim, Wyoming

Located in south-central Wyoming on over 290,000 acres of mostly private land, this project utilizes the Coordinated Resource Management process to improve critical range for elk, antelope, and deer. Goals include demonstrating compatibility between livestock grazing and consumptive and non-consumptive wildlife uses, restoration of riparian habitat, and improvement of upland habitat.

Needs not funded by the President's Budget in Rangeland Management include:

California. Development of standards and guidelines and training for Resource Advisory Councils in portions of three ecoregions. (\$250,000)

Completion of soil inventories and riparian proper functioning condition ratings in the High Rock Area of northeastern California. (\$80,000)

Oregon. Prescribed burning projects for selected stands of juniper to improve rangeland health in the eastern part of the state. (\$8,000)

Utah. Completion of a comprehensive ecosystem assessment on 15 million acres, in cooperation with numerous State and Private Partners. (\$400,000)

Development of a coordinated activity plan for the Grand Gulch ecosystem area. This is a subunit within the Colorado Plateau Ecosystem Area. Funds would be used for additional inventories, development of the Cedar Mesa Woodland management plan, watershed analysis, and revision of the Comb Wash Allotment. (\$190,000)

Implementation of several Seeking Common Ground projects on the Colorado Plateau in Utah, utilizing cost-share opportunities with numerous partners. Opportunities exist to develop water for bighorn sheep and elk, monitor Peregrine falcon and Bald eagle populations, and complete inventories for 6 other federally listed or candidate species. (\$200,000)

Wyoming. Prescribed burns, 3 or 4 additional water developments, and fencing for the Horse Creek Habitat Study, a project that has been analyzing forage utilization and overlap of use on 12 grazing allotments covering about 35,000 acres in the Bighorn Basin of northcentral Wyoming. To date, several AMP's have been developed and signed to implement grazing management strategies that will benefit wildlife, improve range and riparian habitat conditions, and reduce wildlife damage to private croplands. The BLM, Wyoming Game & Fish Department, the Rocky Mountain Elk Foundation, and grazing permittees have all invested considerable time and money in this effort. (\$150,000)

Completion of fence modification on Enos Creek to benefit movement of young big game animals. This project was half completed in FY 1994. (\$8,000)

Inventory and analysis of habitat conditions within crucial big game ranges on Rock Springs District Vegetation project. Partners include Wyoming Game & Fish Department, allotment permittees, and Wyoming Sportsman Association. (\$15,000)



Peregrine Falcon

SUBACTIVITY:

Forestry Management

Introduction

Forestry Management, formerly known as Public Domain Forestry, is rapidly changing. In the past, the BLM's forestry program focused almost exclusively on forest commodities like sawlogs, posts, poles, and firewood. Funding has been based on commodity sales and reforestation of timber producing sites. Few opportunities to enhance lands for reasons other than timber production have been available. A new, ecosystem approach in the strategic plan, *Forests: Our Growing Legacy*, has broadened the Forestry Management mission to include more noncommodity forest uses. This strategy calls for increased participation by the Forestry Management program with other BLM initiatives, including *Fish & Wildlife 2000* and the Riparian/Wetlands Initiative. This new management direction is becoming increasingly important. A number of problems are facing the program that will require increased focus on sustainable management of all forested lands. For example, public pressure on BLM forest ecosystems has greatly increased in recent years. Issues related to biodiversity, anadromous fish, threatened and endangered species, old growth, and forest health all require some level of change and response.

Unauthorized Use

The Foundation supports funding for an adequately staffed woodland program and encourages cooperation between managers to deter unauthorized use. Several BLM states have reported increases in unauthorized use, especially on woodlands and desert vegetation. This includes unauthorized cutting of fuelwood, the removal of large numbers of Christmas trees, and removal of desert plants for landscaping purposes. The 1990 National Census shows population increases to be highest in the states showing the most persistent problems. Large population centers in close proximity to public lands are found in Arizona, California, Colorado, Nevada, New Mexico, and Utah. These states are clearly in need of a more intensive management and protection of their woodland and desert resources to eliminate unauthorized use.

Forest Inventory and Multiple Use Set-asides

The most recent extensive forest inventory of productive public forest land was completed in 1976. As a part of that inventory, a variety of specialists were asked to identify requirements for restrictions on harvest and reductions from the productive forest base in the interest of multiple use. This resulted in reductions in yield from 130 million board feet annually to approximately 60 million board feet average between 1990 and 1993. About 45 percent (1,069,864 acres) of BLM forest land in the lower 48 states is set aside as wilderness, wilderness study, damageable site areas, areas difficult to reforest, or areas with other use priorities, and no harvest is conducted on those lands. This total is derived from three categories:

1. 704,299 acres (29.5 percent of the harvestable base) were withdrawn from the productive base and identified as damageable or damaged sites, as having reforestation difficulties, or ideal for other uses.
2. 227,225 acres (9.5 percent) were set aside in wilderness study areas.
3. Of the remaining productive forest land, partially restricted yields were established to accommodate other uses. Expressed in total acres, the restricted yield is the equivalent to another 138,340 (6 percent) acre set-aside.

ACTIVITY: LAND RESOURCES

Forest Management Policy, as revised in 1989, requires that the base be evaluated during each planning cycle and harvestable volumes be adjusted accordingly. Forestry managers have made numerous additions or deletions to the original set-asides listed above through land exchanges, restrictions for threatened and endangered species, and other management decisions. With each new cycle, the Forestry program makes interdisciplinary input an integral part of all timber sale planning and multiple use set-asides. Currently, the existing inventory process is being reviewed and multiple use set-asides will be adjusted to meet changes in forest use. An interdisciplinary team is being formed to design a "forest ecosystems inventory," procedure to replace the inventory of the 1970's. In addition to collecting information related to forest growth, yield, and area, it will take into account factors such as forest structure, fire history, old growth characteristics, and down woody material.

A serious problem facing the program is a persistent reforestation backlog. In 1985, the program received a \$1.5 million add-on to begin reduction of the estimated backlog of 20,700 acres on productive forested land. Since 1985, this backlog has been reduced to 10,300 acres. Due to changes in land use, updated surveys, and land acquisitions, an additional 6,000 acres previously not identified as backlog also will require reforestation. This additional acreage is not in the harvest base, but can provide habitat for a vast variety of fish and wildlife and should be reforested based on its potential to benefit uses other than timber. Due to budget constraints, the program has lost the capability to further reduce the backlog at an acceptable rate. The Foundation strongly recommends that a portion of the funding that is available for reforestation each year be directed to areas that are not necessarily in the harvest base, but have potential wildlife values. The following are other needs, by state, as reported by BLM. The Foundation does not necessarily endorse any particular project.

Alaska. Forest Management funding in Alaska has been two percent of the BLM total appropriation for forest management. Presently, there is no full time forester position for Alaska. The most basic management needs have been unmet. As BLM becomes responsible for more land, the need to establish the location of forest lands, conditions, and uses of forests continue to increase. High wildlife and fisheries values necessitate that timber harvest and forest project proposals include careful consideration of those values both for protection and enhancement.

The 1992 budget contained a \$175,000 Congressional add-on to initiate a forest management program in Alaska. This funding was used for an inventory of forests within a 100 mile radius of Fairbanks. Additional inventory is a top priority, since the results of the inventory are needed to determine fish and wildlife project needs. The forester would be responsible for inventory, unauthorized and authorized use supervision, forest products sales, administration of free use permits, and preparation of planning documents. This position is essential to ensure that inventories are multidisciplinary in nature and incorporate the values, potential values and all interests in the forest ecosystems.

Arizona. Arizona habitats are not only home for year-round wildlife residents, but they are extremely important to Neotropical migratory birds and several species of rare and endangered plants. In the past, forest appropriations have been largely used in control and prevention of unauthorized use. A proactive program that directs additional funding into the betterment of these wooded ecosystems is needed to manage and enhance these unique systems. Funding to inventory riparian and desert vegetation is particularly important.

California. Forest management in California is entering into an era of challenges and changes, moving from the traditional emphasis on timber production to one that includes preservation of old growth ecosystems, reforestation of non-stocked land and more holistic management of public lands for all natural resource values. The public is actively involved in the planning process. Over 50 percent of California's BLM commercial forest land base is not readily available for intensive forest management and timber production. The recent listing of threatened and endangered species and anadromous fish issues will change the program significantly, especially in the Coast Range, from a product orientation to a broader perspective that encompasses forest conservation.

There is in excess of 15,000 acres of reforestation backlog potential in California. Most of the acreage is from old burns and acquired lands, such as in the King Range near Arcata. Reforesting would increase biodiversity in large brush fields and improve wildlife habitat. The majority of this land is not included in the timber production base and therefore is not scheduled for reforestation with appropriated funds.

Colorado. The Colorado forest management program capability has diminished in recent years. In spite of this, there have been notable examples of habitat improvement using forest harvest as a tool to restore and create new habitat. Large acreage of woodlands exist that provide ample opportunity for an increased program to support multiple uses on forest lands including fish and wildlife habitat.

Idaho. Forest management is a major program in the Coeur d'Alene District, which is also a Fish & Wildlife 2000 pilot district. Idaho's wealth of wildlife will provide many opportunities for forest management and wildlife programs to cooperatively conduct innovative projects. Previous harvest and burns have reduced hiding cover in some areas. Habitat quality for both game and non-game animals is being improved through tree planting in some areas and harvest in others.

Nevada. Nearly all of Nevada's forest management program has been focused on woodlands management. There are opportunities to improve wildlife habitats on thousands of acres through commercial harvest of firewood and Christmas trees. This is in lieu of traditional chaining, which can severely damage wildlife habitat. There is also potential for increased use of prescribed fire, as well as miles of streamside woody vegetation that can be restored.

New Mexico. New Mexico has several creative programs aimed at restoring habitats that could be conducted with additional funds, including prescribed fires to improve ecosystems. In some areas, however, archaeological concerns restrict the use of fire as a tool and managers depend on more labor intensive removal of woodland species. This will help meet public needs for fuelwood while meeting archaeological concerns.

Oregon/Washington. Eastern Oregon and Washington have a large woodland resource that offers a great deal of opportunity for wildlife habitat improvement for grouse deer and elk. Oregon has been a forerunner in riparian management and juniper encroachment control in some areas. The state office has prescribed burning expertise and, if funded, could quickly conduct an effective woodlands program in support of wildlife habitat improvement.

Utah. Additional funding is needed to meet the demands and impacts of increasing population in Utah, particularly demands on BLM forest land and to meet the objectives of the new For-

est Management Policy. A variety of woodland habitats and wildlife species offer numerous opportunities for forest management to be used as a tool to improve wildlife habitat.

The potential for future opportunities is great, but with existing funding largely tied to sawlog harvest, salvage of insect and disease killed timber, and reforestation of harvested lands, the capability to also provide for noncommodity resources is limited. The program has received assistance from the establishment of the "Forest Ecosystem Health and Recovery Fund" (FEHRF), which enables the Agency to retain the federal portion of receipts from the sale of salvage timber to be used for emergency salvage sales and reforestation of those sale areas. Wider authority would enable some of these receipts to be used for other improvement practices such as density control and prescribed burning further benefiting wildlife habitats. Very little of Forestry Management appropriated funding is currently available for fish and wildlife projects, except as incidental to forest harvest. However, due to the new forest policy and strategic plan, wildlife benefits have already become evident. Opportunities in FY 1996 include:

- Use of forest harvest and reforestation to maintain, create, restore, or modify wildlife cover. This includes establishment of woody vegetation in riparian areas, establishment of hiding cover, and thinning of forest stands to facilitate wildlife use and movement.
- Using timber and fuelwood harvest to create new forage and cover, and to maintain biological diversity and successional stages to favor desired wildlife.
- Thinning dense stands to enhance forage production and change wildlife use patterns, such as shifting winter use from private to public lands.
- Establishment of an old-growth management policy and methods for field implementation to enhance species diversity.
- Maintenance and creation of habitat for cavity nesters through timber sale and fuelwood harvest contract stipulations. This is consistent with ongoing efforts to define old-growth management policies.
- Riparian and stream improvement through vegetation management tied to fuelwood and other commodity sales, and reforestation.

Some recent accomplishments include the following:

Bureauwide. BLM is participating in Global ReLEAF, through a cooperative agreement with American Forests, a non-profit organization dedicated to bringing Americans closer to forest resources through action oriented programs, information, and communication. Under the agreement, BLM accepts donations for tree planting on lands outside the productive timber base to aid in restoration of woody vegetation on wildlife and fisheries habitat.

Arizona. Restoration of woody vegetation in and near riparian areas was funded by private sources through Global ReLEAF.

California. Global ReLEAF has contributed funds to restore riparian vegetation and Douglas-fir in the Mattole River watershed in northern California.

Colorado. BLM continued interdisciplinary efforts to improve big game winter ranges using fuelwood sales.

Idaho. A timber sale has been designed on the Boise District with the objective of restoring forest stand structure to retain old growth ponderosa pine while reducing ladder fuels to increase resistance to catastrophic fire.

Montana. BLM reforested important elk and deer winter range killed by extreme weather. Costs for labor, seedlings, and material will be shared by the Western Montana Fish and Game Association, challenge cost share, and BLM forestry and wildlife programs.

New Mexico. Pine forests continue to be restored by volunteers on homesteaded lands restored to federal ownership under the Bankhead Jones Act.

Oregon. Underburning was conducted on the Lakeview District to reduce fire hazard and stimulate forage and browse. The costs are shared among BLM's forestry, range, wildlife, and fire programs. Stocking density control continues to increase growth rates, stimulate forage production, and reduce catastrophic fire hazard in the Prineville and Vale Districts.

Utah. Pinyon juniper fuelwood sales are being specifically designed to improve wildlife habitat on elk and deer winter range.

Wyoming. An important winter roost area for bald eagles on an Area of Critical Environmental Concern on Casper mountain is being reforested. The area had been severely burned.

SUBACTIVITY: Riparian Management

Introduction

The BLM manages nearly 24 million acres of land classified as riparian. These areas support some of the most ecologically diverse plant and animal communities on the public lands, including the Columbia and Snake Rivers of the Pacific Northwest, and the prairie pothole region of Montana and the Dakotas. Because of their importance to many natural ecosystems and resources, including wildlife habitat and fisheries, and their relative scarcity, they are often focal points for multiple-use activities as well. In the arid west, these areas are far more valuable than their relatively small area would indicate, providing habitat for more than 42 percent of all mammals in North America and stop-over areas for thousands of migrating birds. Riparian areas also improve water quality by removing sediment from water, provide greater water storage capacity, dissipate and detain flood waters, and offer excellent recreational opportunities.

In 1991, the BLM Director approved the "Riparian Wetland Initiative for the 1990's," which provides a blueprint for restoring and maintaining riparian areas in the western U.S. and Alaska. The principle goal of the initiative is to improve riparian areas so that at least 75 percent are in proper functioning condition by 1997. The Initiative establishes national goals for managing riparian resources on public lands, emphasizing a coordinated approach that involves a variety of disciplines and user groups.

BLM has implemented hundreds of projects and entered into partnerships and cooperative efforts to improve and restore riparian areas. In FY 1994:

ACTIVITY: LAND RESOURCES

- A total of 182 activity plans and five resource management plans were prepared that addressed riparian issues.
- Functioning condition assessments were conducted on a total of 4,109 miles of riparian stream areas.
- A total of 645 new riparian-wetland projects were developed, 698 existing projects were maintained, and 538 projects monitored.
- Over 100 areas with riparian-wetland values were selectively managed through partnerships, primarily with State and private cooperators.

Learning to talk Riparian

Over the past few years, BLM has developed a cost-effective process for assessing the functioning condition of riparian-wetland areas, which has proved invaluable to managers in identifying priority areas for restoration and maintenance. The process classifies areas as "proper functioning," "functioning-at-risk," and "non-functional." This process has brought state and federal agencies, conservation and environmental groups, and livestock operators together so that everyone is speaking the same "riparian" language.

In FY 1994 BLM held training sessions on assessing the functioning condition of riparian areas. Of the over 1,000 participants, 20 percent came from outside BLM. In addition to furthering the BLM's goals, the training has helped ranchers to recognize and address riparian problems on their own lands.

Riparian Action in the West: FY 1996 Projects

Following are projects that would be accomplished with funding requested in the FY 1996 President's Budget. Many of these projects are part of a larger effort to maintain and improve ecosystems on a watershed basis.

Alaska. Continue monitoring Birch Creek, Delta River, Fortymile River, Unalakleet River, Gulkana River and Beaver Creek Wild and Scenic Rivers for effectiveness in meeting riparian-wetland objectives. Work with placer mining operators for compliance with requirements, mitigation measures, and stipulations in reclamation plans for the protection of riparian-wetland values.

Arizona. Coordinate with other agencies and public interest groups to develop water-use strategies to protect instream flow in the San Pedro Riparian National Conservation Area.

Continue the Virgin River Project to determine instream flows needed to maintain and improve riparian and aquatic resource values. Develop and implement management prescriptions for the Gila Box Riparian National Conservation Area.

California. Intensify riparian-wetland monitoring efforts in the southern Sierra Nevada, Walker Pass, Afton Canyon, Amargosa Canyon, Panamint Range, Table Mountain and Sand Canyon areas. Continue implementation of the Northern and Eastern Colorado Desert Ecosystem Management Plan on five million acres, including numerous riparian areas.

Colorado. Work statewide with oil and gas companies, the Army Corps of Engineers, and grazing permittees to minimize negative impacts on riparian values from mineral development and livestock grazing. Maintain and improve riparian values in Dry Creek, Badger Creek, Grape Creek, the Rio Grande, 4 Mile Creek, and East Douglas watersheds.

Idaho. Maintain enclosures and construct fences for sensitive riparian areas associated with Snake River salmon, Snake River mollusks, redband trout, and bull trout. Work with the Idaho Department of Fish and Game to gather instream flow data to protect riparian-wetland values in the Gamble Lake area. On "stream segments of concern," as designated by the State of Idaho, determine whether BLM management actions and construction standards are achieving riparian-wetland objectives. In conjunction with cooperators, maintain and improve riparian-wetland management on Castle Creek, Shoofly Creek, Little Jacks Creek, Big Willow Creek, Henry's Lake, and the East Fork of the Salmon River.

Montana. Continue efforts to reestablish and rehabilitate the Elk Creek stream channel to mitigate placer mining impacts on riparian values. Cooperate with the Montana Water Quality Bureau in monitoring studies of key riparian stream systems. Maintain and develop grazing systems on high priority riparian areas that are functioning-at-risk.

New Mexico. Restore riparian values by constructing protective fences and installing compensatory measures in the Palluche Canyon, Coyote Canyon, Horse Mountain, Y-Ranch, Pelona Mountain, Gila River, and Hungry Beaver areas. Improve riparian values, water quality, and local community welfare in the Rio Puerco watershed. Implement management practices in the Rio Salado area.

Tamarisk: A Particularly Obnoxious Weed

Much of the Rio Grande is dominated by tamarisk, an introduced plant species that crowds out willow and other native vegetation. Because tamarisk thrives on fire, efforts to control it with prescribed burns have failed miserably. The tamarisk grows back faster and thicker than any other vegetation, creating fierce competition for native plants.

Through experimentation with various techniques, BLM has found a successful way to control the plant. Tamarisk has substantial root stores that allow it to resprout quickly after pruning or a fire. However, BLM has found that if tamarisk is pruned after it has put out leaves in the spring, its ability to regenerate is reduced. By returning to the site once or twice the next month to prune any tamarisk regrowth, native vegetation has the chance to gain a foothold and begins to shade out the pesky tamarisk. BLM believes that weeding out this plant is central to restoring the native diversity of the Rio Grande riparian areas and will benefit many species of Neotropical migratory birds, including the Southwestern willow flycatcher.

The method is labor-intensive, but with the help of volunteers, it has shown success. In one project area near Santa Fe, prison work crews cleared the tamarisk and chipped the brush with equipment on loan from a local power company. Once the initial cutting was done, two elderly women revisited the site to prune sprouts. The willow has returned, and cottonwood trees are now sprouting up.

Nevada. Implement the Maggie Creek Restoration Project which is designed to showcase the compatibility of mining, ranching, recreation and riparian values on both private and public land. Continue the cooperative effort to determine instream flow requirements of the Virgin River to protect riparian-wetland values. On a statewide basis, design and implement grazing management practices in high priority allotments that encompass functioning-at-risk riparian areas.

Oregon. Continue to work with the Eugene Water and Electric Board, the Lane County government, and The Nature Conservancy to protect resource values in the McKenzie River watershed. Expand the Trout Creek riparian restoration effort to the entire watershed to include more permittees and grazing allotments. This will extend protection to a greater number of miles of stream, thereby benefitting Lahontan cutthroat trout, and improving water quality and quantity. In support of Pacfish, girdle hardwoods and reintroduce conifers to eventually restore large woody debris to the streams of western Oregon. Develop and implement livestock grazing systems in critical areas of the Steen Mountains to improve habitat for the redband trout and other riparian resources.

Utah. In cooperation with the Utah Division of Wildlife and Bureau of Reclamation, maintain baseline resource and riparian monitoring stations in the Book Cliffs Conservation Initiative area. In this same area, implement management practices as part of the partnership with the Rocky Mountain Elk Foundation, The Nature Conservancy, and Sackir Safari. Continue the statewide effort to work with oil companies to reroute access roads in critical riparian areas. Implement the Otter Creek Coordinated Resource Management Plan which promotes the restoration and protection of critical riparian areas of Sevier and Paiute Counties.

Wyoming. In cooperation with the Wyoming Game and Fish Department, expand the effort of taking riparian-wetland values into account in evaluation proposals to develop oil and gas. Further implement the strategy of enlisting the cooperation of permittees and conservation groups in managing key riparian areas through land-use authorizations and applying protective measures. Implement the Buffalo Creek Coordinated Resource Management Plan in cooperation with the Natural Resources Conservation Service, grazing permittees, and the Wyoming Game and Fish Department to protect riparian value and achieve proper functioning condition.

Keeping Pace: Accelerating Restoration of Degraded Riparian Areas

To reach the overarching goal of 75 percent of riparian areas in "proper functioning condition" by 1997, the BLM needs to dramatically accelerate the assessment of riparian areas. To date, the BLM has completed functioning condition assessments on 48 percent of riparian stream miles in the western United States. This leaves about 23,000 miles, or 52 percent of the total 44,700 miles left to assess. At an estimated \$200 per mile to assess the functioning condition of riparian areas, about \$4.6 million is needed to complete the assessment.

Equally important to assessing riparian health is striving to save those riparian areas that have been degraded to the point of being lost. In most cases these are areas that are "functioning-at-risk" and need immediate attention to return to the status of "proper functioning condition." Beginning restora-

tion efforts on these areas now can save millions of dollars in the future. Of the riparian areas that have been assessed, about 23 percent, or 10,300 miles, are "functioning-at-risk." Many of these areas have degraded to this condition due to over-intensive livestock grazing.

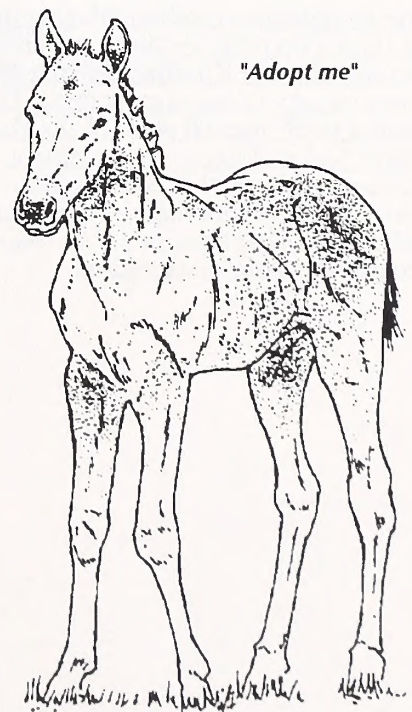
Also of priority is to restore the 4,500 miles of riparian areas that BLM now knows are non-functional. This mileage will probably double when all BLM riparian areas have been assessed in 1997. Restoring seriously degraded riparian areas is more costly than improving areas from "functioning-at-risk" to "proper functioning condition." Therefore, although there are fewer miles in this condition, the need for funds to restore these areas is substantial, though is a less immediate priority.

SUBACTIVITY: Wild Horse and Burro Management

Introduction

Wild horses and burros, though introduced species, are an important part of the western landscape, both symbolically and culturally. Wild horses and burros typically occupy public rangelands in common with both wildlife and livestock, often competing for the same resources. Critical to sustaining these herd is proper monitoring and management. The long-term number of animals in each group that can be properly sustained in each area is determined through the land use planning process based on the availability of habitat requirements, including forage and water. Based upon these determinations, livestock and wild horse and burro populations are adjusted to maintain an ecological balance. To control population numbers, BLM employs both fertility control measures and an adoption program. Following removal from public lands, healthy horses are transported to regional facilities to await adoption. In 1994, a total of 7,870 animals were adopted.

Based upon resource management plans that have been completed for almost 80 percent of the public lands, BLM estimates that wild horses and burros can be properly maintained at a population of 26,000 animals. Currently, the population of wild horses on public lands has surged to 42,400. BLM estimates that the goal of reducing the population by 16,400 animals will be reached by the year 2000. The FY 1996 President's Budget slates the program for a \$750,000 decrease, which will delay BLM in reaching its goal and may cause further damage to rangeland health.



ACTIVITY: LAND RESOURCES

NFWF Recommendations

SUBACTIVITY: (No Change to
Rangeland Management President's Budget)

The Foundation recognizes the importance and the progress being made in completing rangeland health assessments. These assessments are central to determining if current management practices are effective and to resolving resource conflicts. More important, however, is monitoring and use supervision of grazing allotments to ensure that permittees are complying with Allotment Management Plans, grazing lease terms and conditions, and standards and guides. The Foundation recommends that BLM make working with ranchers to ensure proper grazing practices its highest priority.

SUBACTIVITY: (+\$900,000)
Forestry Management

The Foundation recommends an increase of \$900,000 over the FY 1996 President's Budget request. This would restore funding to the FY 1995 level. This funding will be essential for BLM's Forestry Management program to pursue the goals outlined in *Forests: Our Growing Legacy*, a plan that will benefit fish and wildlife through reforestation, inventories, multiple use set-asides and addressing unauthorized use. The Foundation supports the Forestry Management program's activities to establish old-growth management areas, maintain and create habitat for cavity nesters, and improve riparian areas and stream habitats and recommends increased cooperation between Forestry Management staff and the Wildlife and Fisheries Habitat Management staff to carry out this work.

SUBACTIVITY: (No Change to
Riparian Management President's Budget)

1) The Foundation recommends that the people hired to fill 10 of the FTE's proposed in the FY 1996 President's Budget as increases for the Riparian Subactivity be certified in either fisheries biology or aquatic ecology. These FTE's should be dedicated to the mutual goals of the Riparian-Wetland Initiative and to fisheries management. This will be important to providing sorely needed aquatic expertise to the Bureau, and to ensure that the Riparian Initiative takes a broad ecological approach, rather than a terrestrially-based approach to riparian restoration.

2) The Foundation strongly supports the increase of \$2.5 million in the FY 1996 President's Budget and believes that the requested increase shows a strong commitment to achieve the goals outlined in the BLM's "Riparian-Wetland Initiative for the 1990's." While the needs BLM has identified substantially exceed the amount available in the current budgetary climate, the Foundation recognizes that BLM has turned the corner, so to speak, in addressing riparian concerns. The Foundation recommends that the BLM focus its efforts primarily on assessing riparian health to meet the goals of the Riparian-Wetland Initiative. Knowing what's out there is central to making decisions of how and where to proceed with restoration activities. To prevent incurring substantial future costs, the Foundation also recommends that BLM target its restoration efforts towards "functioning-at-risk" areas.

3) There is strong support to make BLM's riparian health assessment process the standard for all riparian areas in the western States. Getting agreement among private industry, state and federal agencies, and environmental groups on the health of a riparian area and what needs to be improved or restored is an important first step to making on-the-ground progress. This is particularly important in the West where riparian problems almost always involve the lands of several federal agencies, States, and private individuals. The Foundation recommends that the BLM take the lead in organizing an interagency effort to examine riparian condition assessment processes. In gaining the input of the other federal agencies and private landowners, BLM's current process can be fine-tuned and potentially adopted as the federal standard for assessing riparian conditions.

4) Last year, BLM conducted a well-attended and successful training session for managers and ranchers on determining riparian area condition. The Foundation recommends that BLM increase training sessions and make a concerted effort to get more private landowners involved. One possible incentive would be to offer ranchers scholarships, perhaps in cooperation with NGO's or universities, to attend BLM-sponsored training sessions. Increasing the expertise of the private sector will benefit BLM's efforts to protect riparian areas by placing all the players on a level field.

SUBACTIVITY: (+\$750,000)
Wild Horse and Burro Management

With a burgeoning number of wild horses and burros, the decrease in the FY 1996 President's Budget of \$750,000 will delay BLM in reducing the horse and burro populations and may result in relatively greater damage to fragile rangeland ecosystems. The Foundation recommends that funding for the Subactivity be restored to the FY 1995 level, or \$16,920,000. This will allow BLM to remove an additional 1,200 horses, bringing the total to 8,700 animals removed in FY 1996. If these horses are not removed, many mares will bear young, making the situation progressively worse.

Appropriation: Management of Lands and Resources

- Activity: Wildlife and Fisheries Management
- NFWF Recommendations

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

(All dollar figures in thousands)

Activity Subactivity	FY 95 Enacted	FY 95 FTE's	FY 96 Pres. Bud.	FY 96 FTE's	NFWF Recom.
Wildlife and Fisheries Management					
Wildlife Management	18,291	279	20,073	298	Support P.B.
Fisheries Management	<u>6,064</u>	<u>80</u>	<u>10,146</u>	<u>84</u>	<u>Support P.B.</u>
Total, Wildlife and Fisheries Mgt.	\$24,355	359	\$30,219	382	Support P.B.

Budget Description

Under the FY 1995 Budget structure reorganization, Wildlife and Fisheries Management has moved from being a Subactivity under the Renewable Resources Management Activity to being its own Activity. This new Activity has two subactivities: Wildlife Management and Fisheries Management. The threatened and endangered species (TES) management responsibility, which was incorporated into Wildlife and Fisheries Management in the FY 1995 budget has become its own Activity and will be covered in the following chapter. Fish, Wildlife, and TES resource issues form the basis for the Bureau-wide planning effort launched in 1987 known as *Fish and Wildlife 2000* (mentioned in the introduction to this Assessment).

There are a number of cross-cutting initiatives also funded under this Activity such as habitat evaluation; habitat improvement; the Challenge Cost Share program; and environmental education activities. For additional information on the Wildlife and Fisheries Management Activity, see section 3, pages 39 through 57 in the Bureau of Land Management Congressional Justification.



The **Wildlife Management Subactivity** funds the bulk of the wildlife habitat conservation activities on BLM's lands. This Subactivity provides funding for numerous new and existing initiatives identified under *Fish and Wildlife 2000* including *Masters of the Night*

Skies -- a bat conservation initiative; *Watchable Wildlife* -- wildlife viewing and public education; *Partners in Flight* -- neotropical migratory songbird conservation; *Waterfowl Environments Today and Tomorrow (WETT)* -- a waterfowl and wetland strategy; *Upland Game Birds*; *Seeking Common Ground* -- resolving livestock/wildlife conflicts; and *Birds of Prey* -- the raptor initiative. Other programs such as *Alaska Subsistence* are also funded under this Subactivity.

The **Fisheries Management Subactivity** funds the Bureau's efforts to protect and restore resident, anadromous, and recreational fisheries on BLM lands. Initiatives found in this Subactivity include the Department of the Interior's *Recreational Fisheries Initiative*, and *Bring Back the Natives* -- a joint Forest Service/BLM initiative.

Making Partnerships a Way of Business: The Challenge Cost Share (CCS) Initiative

Partnership efforts have been a cornerstone in the implementation of BLM's wildlife, fish, and special status species conservation efforts. A key to the success of these partnerships is the BLM's Challenge Cost Share initiative which has been in place since 1985. Since its inception, nearly \$30 million dollars of contributions and in-kind services have been provided by various partners through the CCS initiative to maintain and improve habitat on BLM lands. On-the-ground wildlife, fisheries and special status species expenditures on BLM lands are currently extended by approximately 20 percent by State and private funds through the CCS program.

The FY 96 Base includes a total of \$6.25 million in support of Challenge Cost Share projects. The funds would be distributed in the following funding categories: Wildlife & Fisheries (\$3.25 million), Threatened and Endangered Species Activity (\$2 million), and the Riparian subactivity within the Land Resources Activity (\$1 million). The FY 96 combined appropriated/contributed value of CCS projects on BLM-administered lands would be worth approximately \$15 million dollars.

The Foundation supports this program for two major reasons: 1) it is based on public/private partnerships as is the Foundation; and 2) more than any other program, the BLM holds itself strictly accountable for how challenge cost-share dollars are spent. The high measure of accountability, relative to other programs, is largely due to the fact that BLM tracks CCS projects on a project-by-project basis in cooperation with numerous partners. Because there are numerous partners involved, projects receive close scrutiny. However, there recently have been some complaints that even these funds are being siphoned off for "other priorities" to counteract programmatic downsizing efforts.

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Subactivity: Wildlife Management

Introduction

Under *Fish and Wildlife 2000*, the Bureau made a commitment "to ensure optimum populations, natural abundance, and diversity of wildlife resources on public lands by restoring, maintaining, and enhancing habitat conditions through management plans, integrating actions with other uses of public land, coordinating with other programs, and directing habitat improvement projects." The Foundation supports this commitment, and has itself invested in numerous wildlife habitat projects in partnership with the BLM.

A large percentage of BLM's 272 million acres of lands provide key habitats to numerous wildlife species. One can hypothesize that the most unique benefit of BLM lands to these species is that the tracts of land are normally large, and often contiguous (one notable exception is the checkerboard pattern of the Oregon and California Grant lands). These relatively uninterrupted stretches of wildlife habitats provide resource benefits that may, as yet, be unknown. More intensive efforts by the Bureau to inventory, monitor, and understand habitats may provide great benefits to the resources managed on BLM lands.

Economic and Resource Benefits from BLM Lands

Some of the more general benefits of BLM lands to wildlife are discussed in the introduction to this document. More specific examples of benefits follow:

Big Game: BLM lands provide habitat for 19 different big game species including 3 species of deer and pronghorn antelope; 3 species of elk; 2 species of moose, caribou, and mountain goat; and 3 species of bighorn sheep. BLM administers about 80 percent of the habitat for the desert bighorn sheep in about 115 target areas that provide home to approximately 10,000 bighorns.

Upland Game Birds: About 90 percent of BLM's lands provide upland game bird habitat for 23 species including the Western sage grouse, 3 species of forest grouse, quail, ptarmigan, dove, wild turkey, and others.

Raptors: BLM lands contain all or a portion of 223 key raptor habitat management areas (encompassing 23.5 million acres). Habitat areas include crucial nesting, feeding, and overwintering and resting habitat for migrating birds, and vary in size from 150 acres to 500,000 acres. The world renowned, BLM-managed Snake River Birds of Prey Natural Area near Boise, Idaho contains the highest density of nesting raptors in North America.

Nongame Wildlife: The 1991 *National Survey of Fishing, Hunting, and Wildlife Associated Recreation* contains the following statistics regarding nongame recreation activities:

- In 1991, more than 24 million Americans took trips for the express purpose of watching wild birds, compared to 14 million hunters (3 million migratory bird hunters) and 35 million anglers.
- Each year, more than \$19 billion is spent on nongame wildlife appreciation in this country.
- Annually, \$2.5 billion is spent on bird seed, feeders, baths, and nesting boxes.

These statistics are bolstered by additional examples:

- In a 1990 survey, twice as many vacationers preferred to watch birds than play golf. (*Fortune*, 1990)
- The average birder annually spends more than \$350 on travel and paraphernalia related to bird watching. Committed birders spend much more -- on average, active birders annually spend about \$2,000 on birdwatching, with half that amount on travel or avitourism. (Wiedner and Kerlinger, 1990)

Below, we present some additional well-researched examples of the extensive impacts of healthy wildlife populations on local economies. These examples are not limited to BLM, but demonstrate the importance of protecting and restoring the many resources that depend on our Nation's public lands.

Birding as an Economic Asset

It's no secret that the best spots for bird-watching usually are in rural areas. Less known, however, are details about the significant economic benefits provided to rural communities by birdwatchers and wildlife-viewers. The effect of dollars spent by ecotourists is "multiplied" as tourist dollars become profits, then wages, then consumer income once again, and so on. In some regions, the multiplier effect may be close to 5:1. Consider the following examples:

Cape May, New Jersey: Each year more than 100,000 birders visit this area, contributing to the local economy a cumulative impact of nearly \$10 million. (Kerlinger and Wiedner, 1991)

High Island, Texas: In 1992, more than 6,000 birders visited this small Gulf Coast town. They spent \$2.5 million in the community, and generated for the region a total economic impact of about \$6 million. (Eubanks, Kerlinger, and Payne, 1993)

Chincoteague National Wildlife Refuge, Virginia: The cumulative economic benefit provided to the community by wildlife viewers in 1994 was approximately \$80 million. (Kerlinger, 1994)

Malheur National Wildlife Refuge, Oregon: More than 50,000 people visit this birding "hot-spot" annually, directly spending about \$4 million in the local economy. (Kerlinger, 1994)

Hawk Mountain Sanctuary, Pennsylvania: More than 50,000 visitors each year contribute more than \$4 million to the local economy. (Kerlinger and Brett, 1990)

Grand Island, Nebraska: At least 80,000 avitourists annually visit this rural community on the Platte River; they spend more than \$15 million, and provide to the region a cumulative "roll-over" benefit of nearly \$40 million. (Lingle, 1991)

Arizona: A University of Arizona study revealed that two birding "hot-spots" in southwestern Arizona attracted 38,000 avitourists in 1991, who in turn spent \$1.6 million and generated \$2.7 million in local economic output, sustaining 56 jobs. (*Common Ground*, 1993).

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

So Much Yet Unknown

Although many studies have been done on “charismatic megafauna” such as elk and other big game species, there is much that the BLM does not understand about the habitat-species relationships of unheralded species on its lands. For example, there is little knowledge of habitat requirements for many amphibian and reptile populations on public lands. Precious little is known about the potential of abandoned mines to provide breeding and roosting sites for bats. Little is known about the many plants found on BLM lands, and even less is understood about the habitat requirements of small mammals. If BLM is to utilize an ecological approach to management, the Bureau must continue its efforts to understand the species-habitat relationships for both high-profile and less well-known species on its lands, or else efforts to effectively manage sustainable populations based on healthy habitats will be compromised.

At the request of the Foundation, field personnel in the Bureau presented a number of their needs and accomplishments under each **Fish and Wildlife 2000** initiative. On the following pages, the Foundation presents a selection of their responses that apply to the Wildlife Habitat Subactivity. It is our hope that this will be an informative guide for the reader to understand some of the Bureau’s most pressing needs as identified by the staff in the field. The Foundation is not specifically recommending funding for any particular project.

Alaska Subsistence

Needs:

Alaska. Conduct a three-year project to evaluate the customary and traditional uses of 50 rural communities to develop regulations governing subsistence uses of fish and wildlife on public lands. Information will be used to determine eligibility, methods and means of harvest, seasons, and levels of harvest. (\$300,000)

Subsistence program requirements to monitor wildlife populations and harvests, and analyze data for input to the regulation development process demands a full time commitment. Current staffing levels allow only a part-time effort. Additional funding would provide 5 new wildlife biologists and operational funding to monitor populations of big and small game species used for subsistence. (\$600,000)

Accomplishments:

Alaska. Conducted helicopter survey of the Unalakleet River drainage for brown bear, caribou, and anadromous fish. Conducted during the peak of the pink salmon run, this survey provided information on numbers of animals and feeding sites.

Conducted aerial survey of the Anvik/Bonasila river drainages to determine the relative abundance and distribution of the western arctic caribou herd. Project was completed in cooperation with the Alaska Department of Fish and Game (ADFG). This information is important for management decisions related to wildlife as well as subsistence issues.

Big Game/Seeking Common Ground

Needs:

Arizona. Wildlife water development is an important cooperative program between the Yuma District and the Arizona Game and Fish (AGFD). There are approximately 27 proposed new water (including 8 within designated wilderness areas) developments and 38 existing developments in need of repair to function properly. These will be completed with many organizations and the AGFD. (\$180,000)

Montana. The Elkhorn Mountain cooperative management area involves numerous partners including the Montana Department of Fish, Wildlife and Parks, the Forest Service, Rocky Mountain Elk Foundation and many private landowners. Emphasis is on riparian-wetland areas, elk and other wildlife habitat restoration and recreation. (\$230,000)

Nevada. Complete habitat improvement projects to benefit elk, mule deer, pronghorn and bighorn sheep. Projects include land treatments, water developments, and fencing. (\$150,000)

Increase big game inventory and monitoring to enhance an ecological approach to management by reducing conflicts between big game and livestock. Seeking Common Ground initiative. (\$300,000)

Utah. Big game (primarily mule deer, antelope and elk) habitat management statewide involves vegetation manipulation, construction of new water developments and maintenance of existing water developments, hazard reduction and good inventories and monitoring. Partners include the Rocky Mountain Elk Foundation, Mule Deer Foundation, Utah Division Wildlife Resources, One Shot Antelope Foundation, NARCS, conservation organizations, and others. (\$500,000)

Wyoming. Habitat project in Big Piney-Labarge involves vegetation treatments of 6,000 acres of winter ranges. Prescribed burns are being used to enhance forage production and lure elk away from feeding ground situations which promote the spread of brucellosis among elk. Partners include the Wyoming Game & Fish Department and Rocky Mountain Elk Foundation. (\$10,000)

Completion and initial implementation of the Moxa Arch Cooperative Mitigation Plan to replace or enhance pronghorn antelope crucial winter range in an area under intense energy development. Partners include: Union Pacific Resources, Amoco, Wexpro, Celsius, Questar, Washington Energy, Williams Field Service, numerous private landowners, Wyoming Game & Fish Department, and NBS Cooperative Research Unit. Cooperating organizations will fund up to \$30,000 from private sources. (\$17,000)

Habitat treatment needs and priorities are being developed by the technical group for the Cumberland Allotment steering committee. The area in southwest Wyoming is crucial winter habitat for the Wyoming Range deer herd. The program will consist of a variety of different vegetative treatments done over a series of years that will be designed to establish a mosaic of different vegetation age classes. Partners include: grazing permittees, Wyoming Game & Fish Department, BLM Salt Lake District, Rocky Mountain Elk Foundation, Medicine Butte Wildlife Association. (\$10,000 per year for 5 years)

Prescribed burns are scheduled to continue for the next 5 years in the Grass Creek drainage. This project provides increased forage for both livestock and elk. Partners: Rocky Mountain Elk Foundation, Wyoming Game and Fish Department. (\$40,000)

Prescribed burns of 1,000 acres of habitat within elk winter range and mule deer transition range will improve livestock distribution and overall health of riparian areas in the Upper Green River watershed. Partner: Rocky Mountain Elk Foundation. (\$10,000)

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Initial implementation of projects for the Laramie Peak Bighorn Sheep Habitat Improvement Plan include the completion of 15 site specific burns to improve bighorn sheep habitat quality and quantity within the next 10 years. Partners include the Wyoming Game and Fish Department, the U.S. Forest Service, and adjacent landowners. (\$125,000)

Accomplishments:

Idaho. One elk guzzler/aspen water harvester was installed in BLM's Burley District and two others are planned for installation in 1995, in cooperation with the Rocky Mountain Elk Foundation and the Idaho Department of Fish and Game. One will be placed on private land in cooperation with a local rancher, to help solve a depredation problem (a Seeking Common Ground project).

Nevada. BLM's Winnemucca District, the Nevada Division of Wildlife, and Oregon Department of Fish and Wildlife transplanted 20 California bighorn sheep from Oregon's Hart Mountain to Nevada's Montana Range.

Wyoming. In the Pinedale Resource Area, approximately 2,500 acres of big game winter range were treated through prescribed burning near Big Piney, Wyoming. Mobil Oil Company is providing a range rider to herd livestock off the burn areas for two years. Partners included the Wyoming Game & Fish Department, and the Rocky Mountain Elk Foundation.

Upland Game Birds

Needs:

Arizona. Provide permanent upland waters in the Empire-Cienega area for pronghorn, mule-deer, javelina and quail. Develop cooperatively with Arizona Game and Fish. (\$14,000)

Colorado. The Gunnison sage grouse (recognized as a unique subspecies) could become federally listed unless action occurs soon to restore habitat diversity and health. A large number and variety of habitat restoration projects have been identified as needed to restore riparian areas, improve sagebrush community health and eliminate habitat fragmentation. While the projects are designed to benefit sage grouse, several other species will also benefit. (\$100,000 per year)

Montana. Upland bird habitat analysis in Eastern Montana includes neotropical birds such as the Baird's sparrow as well as the sharp-tailed and sage grouse. (\$150,000)

Nevada. Cooperate with Nevada Department of Wildlife and California Department of Fish and Game to reestablish Columbian Sharp-tailed Grouse, a candidate species for listing under the ESA which has been extirpated from both states, to the Elko and Susanville Districts respectively. (\$20,000)

Improve riparian habitat to support mountain quail, a candidate for listing under the ESA in Carson City, and Battle Mountain Districts. (\$45,000)

Improve livestock grazing practices in order to improve foothill and mountain meadow habitats to benefit sage grouse in Nevada. Projects will include additional fencing and water developments. (\$120,000)

New Mexico. Cooperate with the New Mexico Department of Game and Fish on habitat study for the Lesser prairie chicken. (\$24,000)

Cooperate with New Mexico State University on quail studies in southwestern New Mexico. (\$10,000)

Accomplishments:

Colorado. BLM is undertaking a major effort protect the remaining populations of the Gunnison Basin sage grouse. Over 60,000 acres of habitat were surveyed to locate and monitor strutting grounds (leks). In cooperation with the Colorado Division of Wildlife, 10,000 acres have been inventoried to collect vegetation quality information for Gunnison sage grouse, and twenty sage grouse have been radio tagged to monitor movements and habitat use. Two riparian enclosures were installed to protect 20 acres of key habitat. Maintenance was completed on eight existing riparian enclosures. One interseeding project was completed on 40 acres of key habitat, and sage grouse winter ranges were added to the GIS system. Cooperation continued with Purdue University to complete the research work on the sage grouse.

Idaho. BLM and Quail Unlimited reached an agreement that will help improve game bird habitat on public land. The agreement was developed with the assistance of BLM's Western Wildlife Staff, and provides BLM a 1:2 cost/benefit ratio for cost share projects.

Montana. Pheasants Forever and a rancher, Jim Woods, joined with BLM to develop pheasant nesting and winter habitat on the Woods Wildlife Area on the Wild and Scenic Missouri River in the Havre Resource Area, Montana. More than 700 acres of food plots and 250 acres of nesting and winter habitat were planted.

Neotropical Birds/Partners in Flight

Needs:

Alaska. Establish three Monitoring Avian Productivity and Survival (MAPS) stations to monitor production and survival of neotropical migrants in pristine habitats. (\$60,000)

Arizona. Expand monitoring of songbirds within the San Pedro River Riparian National Conservation Area and adjacent riparian zones in New Mexico. (\$50,000)

Colorado. Fully implement nongame bird monitoring in Colorado. Currently, less than 20 percent of all breeding birds are being monitored. An interagency plan has been developed to expand the level of monitoring to 80 percent. BLM needs to triple its present level of effort in order to ensure that public lands are accurately surveyed. (\$65,000)

Eastern States/Minnesota. The Minnesota Bird Diversity Project is an ongoing long-term monitoring and management effort designed to maintain Minnesota's unique diversity of forest birds. Cooperators include state and federal resource agencies, conservation organizations, private foundations, forest products companies, and private individuals. (\$10,000)

Eastern States/Wisconsin/Georgia. The Wisconsin and Georgia Breeding Bird Atlas projects will determine distribution, location, abundance, and nesting success data to be used for management of habitat on an ecosystem basis. (\$20,000)

New Mexico. Compile neotropical bird inventory in cooperation with Hawks Aloft in the Las Cruces District. (\$20,000)

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Neotropical Bird Survey in Hidalgo and Grant Counties. Partnership with New Mexico Game and Fish Department. (\$10,000)

Accomplishments:

Alaska. All districts worked with Alaska Partners In Flight to establish Breeding Bird Surveys, off-road point counts and migration monitoring programs, to gain information on the state's immense, and largely unknown, nongame bird resources.

Idaho. BLM's Nongame Bird Program Manager on the Western Wildlife Staff worked with the National Training Center in designing and conducting the first *Neotropical Migratory Bird Conservation* training course.

Montana. In cooperation with Cornell University, Garnet Resource Area in the Butte District, Montana gathered data on 30 western Tanager plots. The plots were visited twice, once during breeding and once during nesting, to document breeding success in patches of habitat smaller than 25 acres. Gathering the data is part of a nationwide effort. In addition, two standard breeding bird surveys of 25 miles each were conducted.

Utah. An updated *Field Checklist of the Birds of Utah* was published in cooperation with the Utah Ornithological Society, U.S. Forest Service, National Park Service, Utah Division of Wildlife Resources, and Utah Division of Parks and Recreation.

Wyoming. Biologists at the Platte River Resource Area conducted breeding bird counts on over 60,000 acres in 11 different habitats in the Bighorn Mountains. The surveys documented over 50 different breeding bird species.

Wetlands/Waterfowl Environments Today and Tomorrow (WETT)

Needs:

Alaska. An evaluation of crucial habitat use and the distribution of Alaska's migratory bird, waterfowl, and shorebird species and the relative importance to worldwide populations is needed. Due to the remoteness of many BLM lands, much is still unknown about the significance of BLM habitats for nesting and staging. (\$50,000)

Conduct inventory and mapping of wetland and waterfowl habitats on BLM lands using remote sensing technology for input into the BLM-Alaska Geographic Information System. This will be combined with a 10-year program to inventory and map 73 million acres of terrestrial vegetative cover using satellite imagery. (\$100,000)

Alaska's wetlands have gained importance for migratory waterfowl and other birds as wetlands elsewhere in North America are increasingly impacted by expanding human presence and persistent drought conditions. Fire management and global warming are being studied to determine their effects on waterfowl production in this large ecoregion. (\$50,000)

Arizona. BLM is in the early stages of restoring native riparian vegetation along the Lower Colorado River. In FY 96, funds are needed to obtain planting materials. Volunteers and other cooperators will donate labor for the project. (\$10,000)

Early settlers diverted the main channel of Cienga Creek, causing long-term damage to the native vegetation along the riparian zone. Since acquiring the property, BLM has proposed returning 1.5 miles of creek to natural channel, restoring endangered fish and riparian habitats. (\$300,000)

Colorado. Restore over 100,000 acres of wetlands on BLM land. Two large wetland projects are being planned for the Blanca Wetlands and Hebron Slough areas. Several smaller wetland habitats will also be restored. Funding is needed for water rights, water conveyance facilities, maintenance and new construction, and dirt structures (dikes, diversion dams). (\$100,000)

Idaho. Gather and analyze data and provide BLM's input into the Snake River water adjudication. (\$100,000)

Montana. Funding is needed to perform proper functioning condition analysis on riparian areas Statewide, and implement waterfowl improvement projects on BLM lands outlined in the Prairie Pothole Joint Venture Plan. (\$200,000)

The Blackfoot Challenge was designed to restore the Blackfoot River and associated species such as the Bull Trout and Westslope cutthroat. Numerous projects have been planned that include improving livestock grazing management, riparian restoration and trout habitat improvements. This is also a Bring Back the Natives project. (\$210,000)

New Mexico. Continued the Playa Lake research project in cooperation with the National Biological Service. The project is scheduled for completion during FY96. (\$50,000)

Oregon. BLM needs to develop and maintain a critical irrigation well, on the Warner Wetlands in southcentral Oregon, that is used to provide water for waterfowl production areas. (\$9,000)

Utah. The BLM has never had the funds to properly manage the Pariette Wetlands according to objectives set forth in its management plan. (\$200,000)

Develop Horseshoe Springs Watchable Wildlife Area and Showcase HMP Area in north Utah. Project entails fencing, diking, signing, parking area, and a boardwalk. (\$95,000)

Wyoming. Construct a wetlands complex at Wheat Creek Meadows including 5 ponds for waterfowl and neotropical birds. Develop outdoor classroom and interpretation of site. Partners include Ducks Unlimited, the Kemmerer School District, and Wyoming Game & Fish. (\$40,000)

The Elko Reservoir (in the Green River drainage) already has well developed wetlands, but it is in danger of being lost through dam washout. Project work would repair the spillway and riprap the dam. (\$15,000)

Construct 10 nesting/resting islands on natural pothole wetlands in the Upper Green River drainage. Partners include Ducks Unlimited, Wyoming Wetlands Society, Bridger-Teton National Forest, and the Wyoming Game & Fish Department. (\$15,000)

This project entails fencing the Yellowtail Tracts 4 and 5 in the Bighorn River drainage to restrict grazing and protect riparian habitat, including potential bald eagle nesting habitat, and Shoshone River wetland habitat. The Wyoming Game and Fish Department has already constructed a similar fence on an adjacent river tract and would maintain this fence under the Yellowtail Habitat Unit Coop Agreement. (\$5,000)

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Implement the Jack Morrow Hills Ecosystem Management Plan. The plan includes riparian and uplands projects, habitat monitoring and development of Back Country Byways-Watchable Wildlife routes. Partners include the Wyoming Game & Fish Department, and private energy companies. (\$80,000)

The Red Creek watershed, adjacent to the Currant Creek/Sage Creek Showcase area, is crucial deer and elk range and is also historic habitat for the Colorado River cutthroat trout. The adjacent landowner is interested in cooperating on several improvement projects. Work includes prescribed burning and riparian restoration. Partners include: private landowner, Wyoming Game & Fish Department, and the Rocky Mountain Elk Foundation. (\$20,000)

The Rawlins District needs to complete "Proper-Functioning Condition" assessments on the remaining riparian habitat areas in the Lander and Great Divide Resource Areas (district-wide). The project will take 4 years to complete. (\$45,000)

Accomplishments:

California. To improve riparian/wetland values in the Cosumnes River ecosystem, restoration (including dike construction and water control structure installation) was completed on 170 acres comprising the Lost Slough East unit of the Cosumnes River Preserve wetlands. An additional 850 acres at the Preserve were maintained through dike maintenance, water management, and pump and pipe repair. To protect riparian/wetland values, no-trespassing signs were posted, wetland areas were patrolled by BLM rangers, and other enforcement agencies (Fish and Game and FWS). To inform and educate the public on riparian/wetland values, a Visitor Center at the Cosumnes River Preserve was constructed. The Visitor Center was dedicated March 3, 1994. Both the boardwalk into the Lost Slough wetland and the interpretive displays at the Visitor Center are nearly completed. The Wetlands Manager gave tours to 9 groups during the year. The base has been laid for effective information and education in the future. To foster coordination and cooperation in riparian/wetland values, the Folsom Resource Area has developed and signed a Cooperative Agreement among the core partners at the Cosumnes River Preserve (BLM, Ducks Unlimited, The Nature Conservancy, California Department of Fish and Game, The National Fish and Wildlife Foundation, and the County of Sacramento).

Colorado. The San Luis Resource Area received funds for the Blanca Wetlands Area, a major waterfowl production area, from the Land and Water Conservation Fund. The funds were used for the purchase of water rights to stabilize wetlands for waterfowl and shorebird nesting and production. The area managed by BLM produced 6,000 ducks and 400 Canada geese in 1994.

Montana. Eight reservoirs were constructed in the Lewistown District with the Montana Department of Fish, Wildlife, and Parks as a partner. An additional 70 acre-feet of water with a maximum depth of 6 feet will provide waterfowl habitat as well as water for other wildlife species and livestock. Several other reservoirs in eastern Montana were repaired and improved to provide pair and brood-rearing habitat and improve upland nesting areas for waterfowl.

Raptor Habitat Management

Needs:

Alaska. Inventory and establish population monitoring on 2,350,000 acres in 7 Key Raptor Areas. (\$85,000)

Idaho. Funding is needed to expand raptor surveys and population monitoring, implement improved visitor services and education, and develop additional recreational and interpretive sites at the Snake River Birds of Prey National Conservation Area. (\$145,000)

New Mexico. Complete raptor surveys on several areas statewide on BLM lands that lack up-to-date inventories. (\$20,000)

Note: Additional Raptor needs are included in the Special Status Animals section.

Accomplishments:

Alaska. A four-year study of nesting Bald Eagles was completed along the Gulkana River. Results will be used to guide recreation management.

Montana. Over 64,000 acres of raptor habitat was monitored in the Dillon Resource Area. The data provides ongoing trend data which has been gathered since 1979.

New Mexico. Three areas (Rio Grande, San Luis Raptor Area, El Malpais NCA) were inventoried for raptors. Approximately 2,000 acres were inventoried, including monitoring of two peregrine falcon (T&E species) nest sites.

Raptor nest inventory was completed in the Farmington District. Also, kestrel nesting boxes were installed in the Socorro Resource Area with Boy Scouts.

Wyoming. Aerial survey of raptor nests for the Kenetech Windpower, Creston/Blue Gap, and Greater Wamsutter EIS's were completed by the Rawlins District. The project involved the mapping of raptor nests with GPS technology. Partners included Kenetech Wind Power, Union Pacific Resources Corp., Amoco, and Snyder Oil Co.

Watchable Wildlife/Environmental Education (includes both Wildlife and Fisheries projects)

Needs:

Alaska. Develop seven Watchable Wildlife sites and interpretive sites along the Dalton, Richardson and Steese highways. (\$160,000)

Construct a salmon run viewing deck on the Jim River to prevent resource damage and accommodate visitor use. (\$3,000)

Arizona. Complete development of the Colorado River Nature Center. Center is managed through a Cooperative Management Agreement and Development Plan with BLM, Arizona Game and Fish Department (AGFD), and Bullhead City. Plans for the Nature Center include construction of a 53-acre backwater, restoration of 150 acres of native riparian vegetation on a floodplain, and construction of interpretive trails for low-impact recreation. (\$200,000)

New Mexico. Develop viewing area at Kingfisher Ponds for special status fishes of the San Pedro at abandoned gravel pit ponds. (\$100,000)

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Nevada. Construct the Lemmon Valley Marsh interpretive trail and fencing. This is a cooperative project with Audubon Society, Nevada Air National Guard, Nevada Division of Wildlife, and other local groups. (\$40,000)

Utah. Install Watchable Wildlife signing and interpretation, construct parking lots, trails and/or boardwalks at the majority of viewing sites on BLM lands in order to have these areas fully functional for the public to enjoy. (\$150,000)

Wyoming. This long-term project involves the building of an interpretative center along I-80 near Rawlins, at the edge of the Red Desert, to educate the public about the pronghorn antelope and its habitat in North America. The pronghorn is one of America's unique big game animals and is one of the best conservation success stories in the country. Partners in this effort include the City of Rawlins, the Wyoming Game and Fish Department, Carbon County, various agricultural interests, both the Wyoming and National Wildlife Federations, the North American Pronghorn Foundation, and Union Pacific Resources. (\$200,000)

Accomplishments:

Arizona. The Hassayampa River Riparian Interpretive Project was a cooperative effort between the Arizona Department of Transportation, BLM, Arizona Game and Fish Department, and the U.S. Fish and Wildlife Service. This project is on an Arizona Department of Transportation owned rest stop along the Hassayampa River, which receives 300,000 visitors per year. The Bureau helped produce interpretive signs, which were installed to inform visitors of the importance of riparian areas in supplying the needs of wildlife and people.

California. The Guy L. Goodwin Education Center, cooperatively staffed and funded by The Nature Conservancy, California Department of Fish and Game, and BLM, opened at the Carrizo Plain Natural Area. The Center's exhibits and programs focus on the unique plants and wildlife of the San

Joaquin valley ecosystem, which is home to the San Joaquin kit fox, blunt-nosed leopard lizard, and saltbush scrub vegetation.

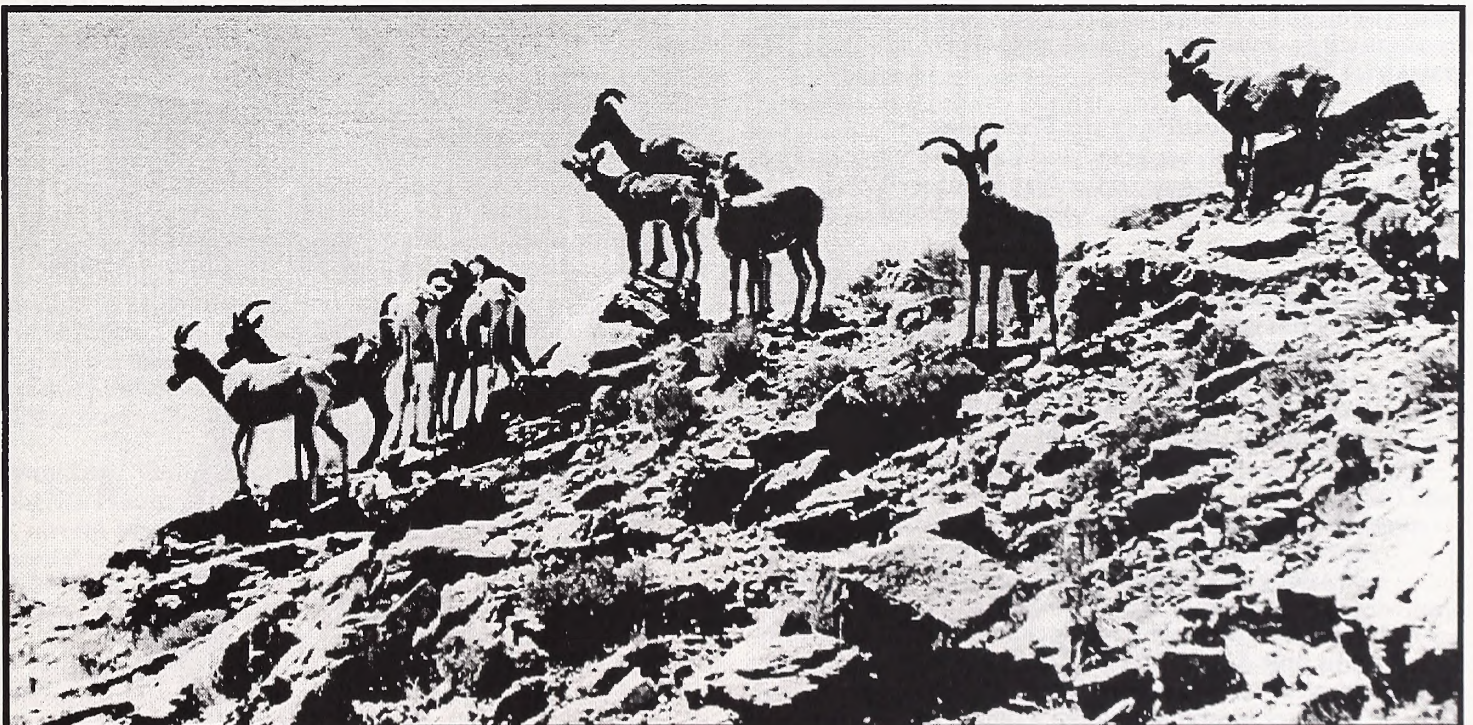
Colorado. BLM and the U.S. Forest Service teamed up to provide riparian plantings for the Fravert Reservoir Watchable Wildlife Site. The project won national partnership recognition, receiving the Forest Service's *Taking Wing* award.

Eastern States/Mississippi. The Jackson District Office and the Piney Woods School conducted a week-long environmental education camp in July at Crows Neck Environmental Education Center in northeast Mississippi. This was part of the school's summer enrichment program. Students from locations as different as Washington D.C. and Alaska participated in the week-long camp.

Idaho. BLM's Wildlife Appreciation Program Manager on the Western Wildlife Staff met with Wildlife Forever to pursue development of a traveling "wildlife observation kit" containing equipment and curriculum materials to help teach students about wildlife observation.

BLM cooperated with the Idaho Chapter, American Fisheries Society, the Forest Service, Fish and Wildlife Service, and Idaho Fish and Game to produce an Idaho Native Fishes poster with paintings of most rare native fishes, maps of their distribution, and information on their life histories and habitat requirements. These posters have been very well received and circulated to partnership schools and school teachers in the Project WILD program.

Montana. In cooperation with the National Wildlife Federation, four trunks full of educational materials were prepared for use in the Montana school system. The main theme was the prairie ecosystem with emphasis on the black-footed ferret/prairie dog relationship. In addition to course material, they contain skins and skulls of the various animals for the students to examine.



Mountain Goats
Courtesy FWS

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

Subactivity: Fisheries Management

Introduction

The BLM currently administers around 169,000 miles of stream and associated riparian habitat; 2.4 million acres of lakes; and about 173,000 acres of reservoirs. Most of the stream miles and acres of lakes are located in Alaska. In California, Oregon/Washington, and Idaho, the BLM manages over 2,000 miles of stream with anadromous fish; over 600 miles of stream historically occupied by anadromous fish; and another 6,000 miles influencing conditions in anadromous streams. These stream miles are located in 104 different watersheds containing over 140 stocks of anadromous salmon, steelhead, and sea-run trout that are at moderate to high risk of extinction.

In the Intermountain West, BLM waters provide excellent opportunities for anglers to catch more than a dozen distinct forms of native trout. The Southwest deserts contain a diverse array of desert ponds and springs harboring many unique fish species adapted to live in these harsh environments.

Some progress has been made in implementing the Anadromous Fish and Fisheries Habitat Management Strategy Plans. The Special Status Fishes Management Strategy Plan, completed in 1992, is now in the beginning phases of implementation (see Threatened and Endangered Species chapter). Many miles of stream and associated riparian habitat have been improved -- primarily through adding habitat structures or reducing sedimentation through restoring bank-side vegetation restoration -- to try to enhance fish production, especially in those watersheds containing Federally listed species and/or streams containing fish at high risk.

Fishery issues in the Pacific Northwest, particularly those associated with the Columbia River Basin, are of paramount importance within BLM. The Eastside and Upper Columbia River Basin Environmental Impact Statements are underway. The EIS process will use the provisions of PACFISH, an interim strategy for managing site specific actions, as one of the alternatives considered in a comprehensive land use strategy for BLM lands.

Socioeconomic Benefits from Fisheries

Fisheries, though often neglected and/or mismanaged, are a valuable economic resource to the Nation, as well as an important ecological resource. A few examples of its importance follow:

- It is estimated that, on a national scale, recreational fisheries generate \$69 billion in economic activity, 1.3 million jobs, and recreational opportunities to 50 million American anglers annually. In light of the value that healthy fisheries add to society, a small investment in protecting this resource -- a \$4 million initiative in FY 1996 -- would pay high dividends.
- The abundance of salmon and steelhead has a direct bearing on the Pacific Coast economies. In 1980, Washington, Oregon, and California commercial ocean harvest alone was valued at \$200 million but because the stocks have declined, the value in 1990 was only \$120 million. The 1990 ocean sport harvest was valued at \$50 million. Overall, this industry is estimated to be a billion dollar industry.

Recreational Fisheries Initiative

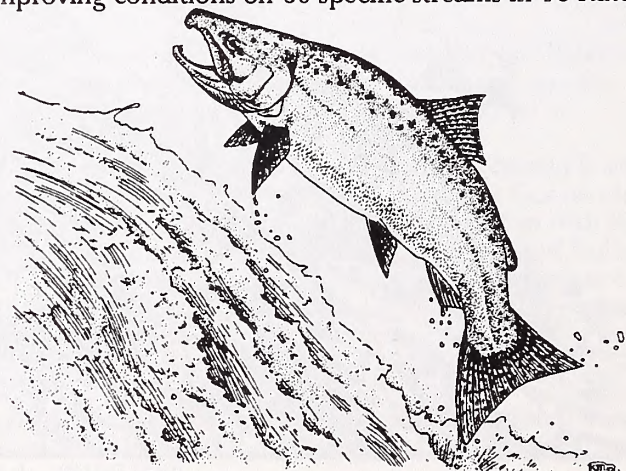
In FY 1996, the President's Budget recommends an increase of \$4 million over the FY 1995 enacted level of \$6 million, specifically for the implementation of the Department of the Interior's Recreational Fisheries Initiative. The Foundation strongly supports this request, and recommends that this increase be spent on habitat restoration projects that will boost recreational fishing opportunities.

The target species of the Recreational Fisheries Initiative are resident fish. Resident fish species include all those not classified as anadromous or special status. Emphasis will be on managing for the biological integrity of aquatic ecosystems and associated watersheds to provide economic and recreational benefits to the public. Improved habitat for these fishes is closely allied to objectives of the Riparian-Wetland Initiative, Partners in Flight, and amphibian conservation, and is an integral part of ecosystem management strategies.

Bring Back the Natives

The BLM is an active participant in the cooperative *Bring Back the Natives* (BBN) effort along with the U.S. Forest Service and the National Fish and Wildlife Foundation. The BBN program is a cost share program which matches Federal funds with private and State contributions. A major cost share private partner is Trout Unlimited. At least 50 percent of the funds spent on any given project must be non-Federal. Native fish, many of which also fall into BLM's Special Status Fish category, are the focus of this initiative. The goal is to restore the health of entire riverine systems and their native species. National, State, and local partners and volunteers support actions which target key habitats and plant and animal species, as well as water quality. In partnership with the Foundation, BLM funded a Bring Back the Natives coordinator in 1994, and will co-fund a joint BLM/Forest Service BBN position in 1995. BLM also co-funds a project coordinator position with Trout Unlimited (TU) in Oregon.

Examples of restoration efforts include improvements on 116 miles of stream habitat within the Marys River watershed in northeastern Nevada which are designed to provide the foundation for the recovery of the threatened Lahontan cutthroat trout. Restoration efforts are also being undertaken on LaBarge Creek in southwestern Wyoming to improve Colorado cutthroat trout. National Fish and Wildlife Foundation challenge grants with private partners are now improving conditions on 60 specific streams in 16 states.



Chinook Salmon
Courtesy, Kendal Morris

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

At the request of the Foundation, field personnel in the Bureau presented a number of their needs and accomplishments under each Fish and Wildlife 2000 initiative. On the following pages, the Foundation presents a selection of their responses that apply to the Fisheries Management Subactivity. It is our hope that this will be an informative guide for the reader to understand some of the Bureau's most pressing needs as identified by the staff in the field. The Foundation is not specifically recommending funding for any particular project.

Resident and Recreational Fisheries

Despite a proposed funding increase of \$4 million, there are numerous fisheries projects in the pipeline that will go unfunded. Numerous examples of needs follow:

Needs:

Alaska. BLM is in the process of establishing a GIS baseline of data layers including species distribution, productivity, habitat quality, and instream flow determination. (\$60,000)

California. Monitor water quality and quantity for 3 important stream sites in northeastern California. These areas provide significant habitat for several fish species. USGS no longer monitors these streams. (\$20,000)

Colorado. Improve and maintain fisheries habitat along the major Colorado rivers and high quality fishing streams through assessing instream flow requirements for resident and native fish. The current priority river is the Gunnison, where contract work to determine minimum stream flows requirements needs to be initiated. (\$40,000)

Eastern States/Minnesota. Lake Vermilion-Universal Access-Fishing project with Minnesota Department of Natural Resources (DNR) to develop a barrier free fishing pier on state administered land. (\$15,000)

Idaho. Provide support for the completion of voluntary land exchanges to reduce conflicts and protect resource values on the South Fork of the Snake River. (\$50,000)

Utah. BLM in Utah is severely understaffed with only two fisheries biologists and about one-half of their time is spent on special status aquatic species management. There are nearly 700 miles of fishable streams on BLM lands in Utah. Additional monitoring and inventory of all streams is needed in order to have adequate information to make management decisions that will take fisheries management into account. Improvement of riparian areas is also helping improve the fisheries habitat. There is a real need to have the expertise available to provide input into land use decisions that might have an impact on fisheries habitat. At least three additional fisheries personnel are needed to provide expertise and for implementation of an ecological approach to resource management. (\$300,000)

Wyoming. Completion of the South Pass Riparian and Fisheries Habitat Management Plan (HMP) is the foundation for several other resource management actions that are planned to take place in this historic region. The goal of this HMP is to protect the riparian and aquatic habitat in this highly scenic and sensitive region. (\$100,000)

Accomplishments:

Arizona. The first 2 completed projects of the Lake Havasu Fisheries Improvement Program were dedicated on February 15, 1994. Secretary of the Interior Bruce Babbitt, Assistant Secretary Bob Armstrong, BLM Acting Director Mike

Dombeck, representatives of the 7 partner agencies and organizations, and local community officials participated in the opening of the 2 newly completed fishing sites at Havasu Springs and Take-Off Point. The 2 sites, part of a 10-year, multi-million dollar fishery project, provide a fully accessible floating fishing dock, fishing platforms, parking areas, and trails to improve shoreline fishing access at Lake Havasu. In the past year alone, the Lake Havasu Fisheries Improvement Program has installed over 8,000 habitat structures in Lake Havasu. Partners in the program are BLM, Anglers United, Bureau of Reclamation, U.S. Fish and Wildlife Service, Arizona Game and Fish Department, California Department of Fish and Game, and Metropolitan Water District of Southern California.

The Bill Williams River Corridor Technical Committee, an interagency committee composed of 4 Federal and 3 State agencies, prepared recommendations to manage water releases from Alamo Dam. This will improve both recreational fishing and boating opportunities at Alamo Lake and riparian habitat, wilderness values, and native fisheries along the 36-mile Bill Williams River downstream.

The Gila Resource Area sampled the 12-mile stretch of Aravaipa Creek in the Aravaipa Wilderness for presence of exotic fishes. None were found in the creek itself. In coordination with The Nature Conservancy and Arizona Game and Fish Department, BLM completed the fish population sampling of the Aravaipa Creek on Conservancy land and Aravaipa Wilderness Area on public land.

Work continued this year at Colorado River Nature Center, an area cooperatively managed by BLM, Arizona Game and Fish Department, and Bullhead City. A development plan was completed and calls for the construction of a 53-acre backwater and restoration of 150 acres of riparian vegetation at the site.

The Lower Gila Resource Area entered into a partnership in 1993 with 3 other agencies (Arizona Department of Transportation, U.S. Fish and Wildlife Service, and the Arizona Game and Fish Department) to develop a riparian interpretive display at a busy streamside highway rest stop. A grant for \$10,000 was approved by the Arizona Game and Fish Commission Heritage Fund to assist the funding of the interpretive displays. A dedication ceremony, held in December 1993, was attended by dignitaries and 500 schoolchildren from all over the state. An additional 120 schoolchildren have toured the display assisted by Resource Area biologists.

California. Six miles of stream channel was acquired by exchange in San Joaquin bio-region along Panoche Creek and Silver Creek.

Colorado. Several key wildlife habitat properties were exchanged or purchased in all 4 Districts. These acquisitions open access for Watchable Wildlife and recreational opportunities. The most notable exchanges or acquisition include parts of the Currant Creek ranch Northwest of Canon City, the Big Springs of Badger Creek, a key part of the Stirrup Ranch to facilitate access to Black Mountain, and the McIntyre Springs along the Conejos River. Along the Arkansas River, 3 parcels were acquired which include Stone Bridge above Salida, and 2 properties in the vicinity of Texas Creek. All of the river properties offer excellent riparian and fisheries values.

Improvement of fisheries habitat consists of rock placement projects completed on the middle Lake Fork of the Gunnison

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

in Colorado. One mile of habitat on the upper Lake Fork of the Gunnison was inventoried to provide information for planning habitat enhancement projects.

Eastern States/South Dakota. One half mile of rainbow trout habitat was improved with the South Dakota Game and Fish Department. BLM and the State created plunge pools, riffles, and cover in a sections of stream that was channelized for a State Highway. It is estimated that the trout population will increase by over 300 percent in this popular fishery which is less than 1 mile from the city limits of Sturgis, South Dakota.

Idaho. Over 140 miles of riparian habitat was inventoried in BLM's Burley District under contract with the Montana Riparian Association. Some 500 willow cuttings were planted along Shoshone and Big Creeks. Cottonwoods also are being propagated for future planting.

Water quality monitoring was conducted on 15.6 miles of Clover Creek, in BLM's Shoshone District. This stream has been designated by the State of Idaho as "Stream Segments of Concern" in part because of its cold water fisheries value.

BLM's Lemhi Resource Area won the 1993 American Fisheries Society's Riparian Challenge award. Nearly 30 miles of stream were significantly improved through improvements in livestock management. Enforcing grazing regulations, removing livestock early due to drought, reducing the number of ungulates in allotments, and the use of small stream structures have all contributed to stream quality improvements.

Nevada. The Interagency Lahontan Cutthroat Trout Management Team consists of field biologists and managers from BLM, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, Nevada, California, and Oregon fish and wildlife agencies, University of Nevada-Reno, and Trout Unlimited. Participation has increased recently due to this group's involvement in the development of the Lahontan Cutthroat Trout Recovery Plan, soon to be released. The Team ensures that management activities are coordinated and that information regarding fish populations and habitat conditions is distributed to all parties.

With less than 3 miles of fence, a riparian pasture encompassing more than 30 miles of high priority threatened Lahontan cutthroat trout habitat was constructed in 1994. Combinations of rest, reduced hot season use, changes in livestock class, riding, and other means will be used to improve stream and riparian habitat conditions within the Beaver Creek Watershed. The project was initiated by Elko Resource Area in cooperation with Western States Minerals and Nevada Mining Association.

Implementation of the Marys River Master Plan, an ecosystem effort with emphasis on recovery of the threatened Lahontan cutthroat trout, was continued. Work completed by the Elko District-Nevada included: processing the Marys River Land Exchange, Carlson Field Fence construction, Upper Marys River riparian planting project, staff gauge installation on Marys River and tributaries, fish population inventory, seedling survival monitoring, vegetation transects, macroinvertebrate sampling, water quality sampling, Chimney Creek trend study, breeding and migratory bird surveys-conducted cooperatively with Nevada Division of Wildlife and project survey and design for FY 1995 habitat improvements.

Utah. In the Vernal District, paired and baseline watershed studies continue to be recorded on the Diamond Mountain area and in Bitter Creek with the Book Cliffs Area. The Book Cliffs Conservation Initiative is a major cooperative effort among the Rocky Mountain Elk Foundation, The Nature Conservancy, the Utah Division of Wildlife Resources and the BLM in the Book Cliffs region of Northeastern Utah. Its goal is to provide balanced management of this unique ecosystem. The key to the initiative is the continued acquisition of privately owned ranches which lie mostly in the canyon bottoms. The streams in these canyon bottoms are literally the lifeblood of the Book Cliffs. Sampling of Pelican Lake will begin as part of an overall study to determine the decline of the once trophy bluegill fisheries.

Declining populations of Bonneville Cutthroat Trout are of major concern to the agency as well as the public in the Richfield District. To better understand these populations this year, 35 miles of streams were monitored to describe water parameters, and macro-invertebrate populations.

Intense efforts to stabilize a 1/4-mile section of Otter Creek were conducted for a second year in the Richfield District. Cottonwood pole plantings (23) and willow shoot plantings (1,000) combined with fencing and bank stabilization are helping to heal deteriorated riparian and fisheries habitat. Boy Scouts and Future Farmers of America helped with this project.

The Vernal District, in cooperation with the U.S. Forest Service and Utah Division of Wildlife Resources is developing a management plan for the nationally known blue ribbon trout stream below Flaming Gorge Dam to the Colorado - Utah border. Fishing and recreation pressure is becoming extreme at times causing conflicts between fishermen and boaters.

The third year of the 4-year, multi-state Virgin River Instream flow study was completed. Baseline information was collected on hydrology, vegetation, and habitat for 2 endangered fish (woundfin minnow and Virgin River Chub).

Wyoming. In cooperation with the Wyoming Game and Fish Department, the Worland District stocked trout in an abandoned bentonite open pit mine that has been rebuilt to form a wetland complex. About 300 discarded Christmas trees were bundled, weighted, and placed in Wardel Reservoir to provide cover for warm-water fish.

Anadromous Fisheries

Needs:

California. BLM lands in northern California contain 52 watersheds that support 120 at-risk stocks of anadromous salmon and steelhead. There are numerous opportunities for restoration and habitat enhancement such as closing abandoned roads, stabilizing eroding banks and side-slopes, replacing culverts, underplanting with conifers in riparian zones, creation of side-channels and expanded watershed analysis and monitoring. (\$6,000,000)

Idaho/Oregon/Washington. Continue watershed Analysis in the Columbia and Snake River Basin. Conduct watershed assessments throughout the Columbia Basin in support of PacFish. (\$2,000,000)

Idaho/Oregon/Washington. Conduct watershed restoration primarily for the Columbia and Snake River Basin. Numerous projects are needed to improve overall watershed health throughout this region. Examples of work

ACTIVITY: WILDLIFE AND FISHERIES MANAGEMENT

that remains includes riparian vegetation planting, bank stabilization, off-channel developments for overwintering and rearing habitat, channels and pool development. (\$4,000,000)

Accomplishments:

Alaska. The Glenallen District initiated the first year of a three year study to determine rearing habitat values for steelhead trout in the Gulkana River, a Wild and Scenic River. The study is being done under the cooperative agreement with the National Biological Service Cooperative Research Unit at the University of Alaska-Fairbanks, and in consultation with Trout Unlimited, Alaska Department of Fish and Game, and the U.S. Fish and Wildlife Service. In addition, the Kobuk District began and completed implementation of two plans designed to protect important anadromous fisheries habitat in streams within the Hogatza and Indian River drainages, part of the Yukon River system. These areas are designated as Areas of Critical Environmental Concern because they harbor important chum salmon spawning and rearing habitat.

Oregon/Washington. In eastern Oregon and Washington, the 4 eastern districts completed inventories on 30 miles of stream to determine existing stream and riparian habitat condition. Habitat improvement projects, including instream structures and planting of willow trees to curb bank erosion, were completed on 4 streams. Two miles of fencing were constructed to exclude livestock grazing in riparian areas along the Grande Ronde River, specifically to protect federally listed chinook salmon. To establish baseline conditions in streams used by listed chinook salmon and other anadromous fish, 13 thermographs and 9 water quality stations were established and 95 macroinvertebrate samples were collected.

Bring Back the Natives

Needs:

Nevada. Implement riparian habitat projects along the Bruneau and Quinn Rivers, a National wildlife/livestock demonstration area, being managed for Lahontan cutthroat trout and redband trout. (\$400,000)

Wyoming. The Labarge watershed has been identified to restore Colorado River Cutthroat Trout, in part through improving bank stability with native plant restoration. This project benefits from a partnership between three chapters of Trout Unlimited, the Rock Springs District of BLM, the Bridger-Teton NF, and Wyoming Game and Fish. (\$81,300)

Accomplishments:

Montana. The BLM, Trout Unlimited, Montana State University, and Montana Fish Wildlife and Parks evaluated westslope cutthroat trout areas, two of which were on BLM lands. Migration barriers were constructed to prevent mixing of rainbow trout with westslope cutthroat trout and population augmentation occurred on one BLM site.

A cooperative bull trout radio telemetry study was undertaken by BLM, American Fisheries Society, Forest Service, Montana Fish Wildlife and Parks, and Trout Unlimited to determine habitat requirements and ways to improve the habitat and population. The project was on the Blackfoot and the Clarks Fork Rivers and covered 282 miles, 5 miles of which are on BLM lands.

Continuing the Blackfoot Challenge. The BLM partnered with Missoula County to resurface 4½ miles of road. The project will reduce sedimentation into Elk Creek, a westslope cutthroat trout fishery, and potential bull trout habitat.

The BLM, Forest Service, Montana Fish Wildlife and Parks, Trout Unlimited, National Wildlife Federation, and the Big Hole River Foundation joined together to continue arctic grayling habitat studies and improvement in the Big Hole River ecosystem.

Oregon. The Coquille River Bring Back the Natives Partnership was formed with the U.S. Forest Service, state agencies, private timber companies, local governmental agencies, and conservation and sport interest groups. With funding from the Governor's Watershed Health Program and the National Fish and Wildlife Foundation, several habitat projects were initiated, including a major culvert barrier being made passable for anadromous fish on private timber land. This project will open 15 miles of historic salmon habitat in the Baker Creek key watershed. This partnership will benefit coho salmon and steelhead trout - 2 species petitioned for listing in the basin.

Habitat improvements were made on 15 mile Creek in Klamath District. An enclosure for improvement for Warner sucker habitat was built in Adel, OR. Fence enclosure maintenance to protect fish habitat was conducted on sites throughout the entire Klamath district.

Wyoming. Rock Creek in Pinedale is home to a small population of genetically pure Colorado River cutthroat trout. Enclosures built in 1975 to protect trout habitat on portions of the creek had fallen into disrepair. Extensive reconstruction of 1 riparian enclosure and maintenance of 2 other riparian enclosures (50 acres) was completed this summer with volunteers from the Oak Brook (Chicago) and local Wyoming chapters of Trout Unlimited. Over 40 people participated, representing 5 states. Rock Creek is a tributary of LaBarge Creek in southwest Wyoming.

NFWF Recommendations

ACTIVITY:

Wildlife and Fisheries Management

Overview: The FY 1996 President's Budget recommends an increase of \$5.5 million for the Wildlife and Fisheries Management Activity over the FY 1995 enacted level. Of the increase, \$4 million is dedicated to the Recreational Fisheries Initiative, and \$1.5 million is dedicated to Wildlife Management funding. The Foundation supports these proposed funding increases and provides additional recommendations for the Activity in general and for each Subactivity below:

Recommendations: (No Change to President's Budget)

Overall

The Foundation recommends that the Bureau develop and implement a set of more meaningful performance measures for its Wildlife Management and Fisheries Management activities. As alluded to in the introduction to this Assessment, the Bureau needs to improve tracking and reporting on the qualitative achievements from its investments. Although this recommendation is made in this particular chapter it has relevance to all of the Bureau's program areas.

Wildlife Management

The Foundation strongly supports the increase of \$1.5 million and 19 FTE's over the FY 1995 enacted level requested in the FY 1996 President's Budget for Wildlife Management.

This proposed increase will be used to increase the Bureau's wildlife habitat evaluation efforts by 400,000 acres, its habitat improvement actions by 100,000 acres, and will increase the number of wildlife conservation projects maintained by 50.

Fisheries Management

1) The Foundation strongly supports the increase of \$4 million over the FY 1995 enacted level requested in the FY 1996 President's Budget. The proposed funding increase will be used to improve habitat on an additional 200 miles of stream, and 3,000 acres of lakes and reservoirs in support of the Department of the Interior's Recreational Fisheries Initiative.

2) The Foundation recommends that 10 of the FTE's proposed as increases for the Riparian Subactivity be certified in either fisheries biology or aquatic ecology. These FTE's should be dedicated to the mutual goals of the Riparian Initiative and to fisheries management. This will be important to providing sorely needed aquatic expertise to the Bureau, and to ensure that the Riparian Initiative takes a broad ecological approach, rather than a terrestrially-based approach to riparian restoration. See the chapter titled Riparian Management for more information on this initiative.



Grizzly Bear and Cub

Appropriation: Management of Lands and Resources

- Activity: Threatened and Endangered Species
- NFWF Recommendations

ACTIVITY: THREATENED AND ENDANGERED SPECIES

(All dollar figures in thousands)

Activity	FY 95 Enacted	FY 95 FTE's	FY 96 Pres. Bud.	FY 96 FTE's	NFWF Recom.
Threatened and Endangered Species					
TES Management	\$18,046	242	\$18,347	242	+\$2,300
Total, TES Mgt.	\$18,046	242	\$18,347	242	+\$2,300

Budget Description

The Endangered Species Act of 1973 (ESA), as amended, requires that BLM carry out programs for threatened and endangered species (TES) and the ecosystems upon which they depend, in order to bring these species and their habitats to a condition where the protective provisions of the ESA are no longer necessary. This involves both recovery actions and ensuring that other BLM program actions are not likely to jeopardize a species or destroy its habitat. For additional information on the Wildlife and Fisheries Management Activity, see section 3 pages 53 through 57 in the Bureau of Land Management Congressional Justification.



The BLM has recently entered into a multi-agency agreement with the Forest Service, Fish and Wildlife Service, National Park Service, and the National Marine Fisheries Service which establishes a general framework for the conservation of species that are declining toward the point of Federal listing as threatened or endangered. Through interagency participation, conservation assessments and agreements outlining management needs will be developed to remove, reduce, or mitigate threats to candidate or sensitive species; thereby avoiding the need to list them.

Introduction

The 272 million acres that BLM manages comprise a diverse landscape that supports thousands of healthy populations of fish, wildlife, and plants. However, some species have diminished in number to the point that they warrant protection under the Endangered Species Act (ESA). The Bureau estimates that approximately 16 million acres of habitat is currently used to protect and recover over 230 plant and animal species listed as threatened or endangered. In addition to these species, BLM lands provide relatively safe harbors for over 1,300 special status plants.

Putting things into perspective, the number of listed species inhabiting BLM lands has been increasing over the last several years at an approximate rate of 15 annually. Further, it is only in the past few years that the Department of the Interior has emphasized taking early actions to both recover and protect those species that have been listed, and to avoid the need for listing through proactive conservation measures.

In the past year, the Department of the Interior has emphasized that there is enough flexibility in the ESA to allow creativity in its enforcement to minimize potential conflicts. Examples of this flexibility are evident in the Department of Interior's recently adopted 4(d) rule, countless Habitat Conservation Plans that have been developed in cooperation with local communities, landowners, and commercial interests, and in major Administration initiatives like the President's Northwest Forest Plan, the San Francisco Bay/Delta Agreement with California, and the South Florida Ecosystem Restoration Program. Each of these initiatives demonstrates that economic growth and protection of habitat can go hand in hand. The package of legislative and regula-

tory reforms proposed by the Department of Interior and summarized below takes another significant step toward making the Act more user-friendly.

On March 6, 1995, the Department of the Interior in conjunction with the Department of Commerce released a set of ten principles designed to balance endangered species protection with economic development, and to reduce administrative and financial burdens on small landowners in particular. These principles follow:

10 principles for implementation of the ESA

1. Base ESA decisions on sound and objective science.
2. Minimize social and economic impacts.
3. Provide quick, responsive answers and certainty to landowners.
4. Treat landowners fairly and with consideration.
5. Create incentives for landowners to conserve species.
6. Make effective use of limited public and private resources by focusing on groups of species dependent on the same habitat.
7. Prevent species from becoming endangered or threatened.
8. Promptly recover and de-list threatened and endangered species.
9. Promote efficiency and consistency.
10. Provide state, tribal and local governments with opportunities to play a greater role in carrying out the ESA.

ACTIVITY: THREATENED AND ENDANGERED SPECIES

To address the steadily growing management requirements for threatened, endangered, and candidate species on BLM lands, the Bureau has focused its efforts on a few major initiatives: desert tortoise; candidate and listed anadromous fish; northern spotted owl; other special status fish; special status plants; and special status habitats. These initiatives are briefly described below:

Desert Tortoise

The BLM has been able to demonstrate a greater efficiency and effectiveness in managing desert tortoise habitat by utilizing a rangewide approach to habitat management. In each of the four States where desert tortoises occur (Arizona, California, Nevada, and Utah), range-wide habitat management plans are in place. The management strategies incorporated into the plans include categorizing habitats throughout the species' range, monitoring key habitats, and minimizing negative impacts from other uses. The recent listing of the desert tortoise as a threatened species in the Mojave Desert places greater emphasis on implementing BLM's range-wide plan and monitoring of tortoise habitat.

Candidate and Listed Anadromous Fish

Management of candidate and Federally listed species of anadromous fish in the Columbia and Snake River Basins of Oregon, Washington, and Idaho will continue as a priority in 1996. The provisions of PACFISH, an interim strategy for managing site-specific actions, will be incorporated as one of the alternatives in the East Side and Columbia Basin Environmental Impact Statement (EIS) process. The EIS process should result in long-term planning efforts in these basins. The majority of funding provided for the Columbia/Snake River Anadromous Fish initiative will be directed toward taking actions to recover listed or candidate species. Management activities will include stream habitat surveys, in-stream improvement projects and maintenance, riparian habitat improvement work and Section 7 consultations on actions such as grazing use authorizations, rights-of-way and land exchanges. Land-use plan amendments and EIS's outlining management actions affecting anadromous fish are expected to be completed for habitats located in Oregon, Washington, Idaho, and Montana in 1996.

Northern Spotted Owl

The Northern spotted owl was Federally listed as a threatened species effective on July 23, 1990, and as a result, BLM's management of program activities affecting the habitat of the owl have been significantly impacted. Recovery/activity plans are currently being developed in cooperation with the Fish and Wildlife Service and other participating agencies. Additional inventory, monitoring, and habitat improvement projects on Public Lands will be required to recover owl populations to a secure level. The O&C Grant Lands account addresses additional management actions related to this species.

Other Special Status Fish

Over 110 fish species are either Federally-listed as threatened or endangered, or are candidates for Federal listing. More are either State-listed, sensitive, or at-risk. Most of these species occur in the Great Basin or Desert Southwest, and many are found only on public land. Some species, such as Lahontan cutthroat trout, once ranged over broad areas and thousands of miles of streams in Nevada, California and Oregon. The range of this species is currently restricted to the headwater reaches of certain streams. Increased management efforts will be made on the bull trout in Idaho and Western Montana. Management recommendations for this species are being considered in conjunction with the EIS being prepared for the Upper Columbia River Basin. Habitat restoration activities including stream structures and measures to improve water quality are expected to be implemented.

Special Status Plants

The BLM has joined the Forest Service, National Biological Service, National Park Service, Fish and Wildlife Service and several other Federal agencies in the Native Plant Conservation Initiative, to coordinate conservation of listed plants on more than 600 million acres of federal lands. This will allow for development of range-wide conservation strategies for many of the more than 400 listed plant species. A focus of the initiative is to increase agency capabilities through improved collaboration with botanic gardens, universities, conservation organizations, and professional societies. Interagency efforts will improve sharing of information and expertise, focus research on priority species, and allow integrated conservation solutions to be coordinated across agency jurisdictions. See more under the chapter in this Assessment titled, "The Roots of Conservation -- the Federal Native Plant Conservation Initiative."

Bats: Masters of the Night Skies

On BLM lands, over 60 percent of the bat species -- 19 of 32 species -- are now either candidate or endangered species. Bats are in the unenviable position of being the largest endangered mammalian group in North America. In 1995, BLM, the Forest Service, and Bat Conservation International launched "Bats: Masters of the Night Skies" an initiative to protect bat populations, educate the public about the many benefits of bats, and conduct research on bat populations to expand the world's understanding of these flying mammals. Needs and accomplishments for bats are found in the chapter entitled "Bats: Masters of the Night Skies."

Special Habitats

The public lands encompass a large array of habitats, plant communities and ecosystems, many of which are rare and/or vulnerable. Under objectives specified in Fish and Wildlife 2000 and the Special Status Plants Strategy Plan, BLM will identify and monitor such habitats (e.g., plant communities/ecosystems) and implement management decisions to ensure the maintenance of the habitat's unique characteristics. These actions, in combination with other habitat management actions, will help ensure maintenance of biological diversity on the public lands, as well as the continued presence of rare or vulnerable plant and animal species habitats.

At the request of the Foundation, field personnel in the Bureau presented a number of their needs and accomplishments under each of three general categories: Special Status Animals; Special Status Plants; and Special Status Fish. On the following pages, the Foundation presents a selection of the Bureau's responses. It is our hope that this will be an informative guide for the reader to understand some of the Bureau's most pressing needs in the TES Activity. The Foundation does not necessarily endorse any particular project described below.

Special Status Animals

Needs:

Alaska. Establishment of Ecological Site Indices (ESI) for BLM Wild and Scenic Rivers and designated BLM Areas of Critical Environmental Concern (ACEC). Areas targeted for work include Anvik, George, Iditarod, and the Unalakleet Rivers. (\$100,000)

Delineate habitat of the newly listed spectacled eider and candidate Stellar's eider on public lands in northern and western Alaska. (\$200,000)

Arizona. Inventory new and monitor known nesting sites for peregrine falcons. (\$50,000)

ACTIVITY: THREATENED AND ENDANGERED SPECIES

Complete re-reading of Desert tortoise monitoring plots in Arizona. (\$78,000)

Close several roads to off-highway vehicles causing damage to Desert tortoise habitat in the Beaverdam Wash area. (\$16,000)

Complete inventories along the Lower Colorado River for Yuma Clapper Rail. (\$10,000)

Complete inventory for the Southwest Willow flycatcher. (\$12,000)

California. Captive rearing of condors in California zoos is expected to result in having young birds ready for release into the Grand Canyon ecosystem in early 1996. Releases are scheduled on BLM lands on the Paria Plateau. Funding is needed to prepare the hacking site and provide support for monitoring. (\$36,000)

Conduct inventories and provide habitat protection for neotropical migrants in the California desert wilderness, San Joaquin Valley Bioregion, Klamath Bioregion, Sacramento Valley, Bay Area/Delta Bioregion, and Southern Sierra Bioregion. (\$220,000)

Conduct inventory and habitat management planning for raptors in concert with Desert Tortoise management in the Western Mojave Desert and Mojave Desert Bioregions, in the Klamath Bioregion, and in conjunction with riparian and wetland work in the Modoc Bioregion of California. (\$260,000)

Implement the Northern spotted owl recovery plan in the Klamath Bioregion of California. Inventory and monitor habitat, improve timber stands, and acquire critical habitat. (\$60,000)

Implement habitat improvement projects for Nelson and peninsular desert bighorn sheep in the California Desert and Colorado Desert Bioregion. (\$120,000)

Implement the desert tortoise rangewide plan in wilderness areas of the California Desert District. Intensive monitoring and habitat protection are required in the Colorado and West Mojave Desert Bioregions. (\$390,000)

Colorado. In Montana and Colorado Black-footed ferret reintroduction of captive raised animals would assist BLM's goals established in the Recovery Plan. The current production facilities are unable to accommodate the number of species needed for each release site. This need involves several states in the Black-footed ferret range. No BLM funds are being used in the captive production facilities. Funds are needed to assist the Fish and Wildlife Service in doubling the ferret production and conducting monitoring studies. (\$300,000)

Eastern States/Florida. Implementation of Jupiter Inlet Area of Critical Environmental Concern Management Plan. This plan includes habitat restoration benefitting 13 candidate or federally listed species, and the development of watchable wildlife opportunities. (\$12,000)

Protection and monitoring of nesting sea turtles and bald eagles on BLM tracts in the western panhandle of Florida and habitat improvement for Florida black bear and several fire dependent special status species at Lathrop Bayou in the Florida panhandle. (\$13,000)

Idaho. Complete inventory and monitor and implement protection for 62 special status species of plants and animals in the Owyhee Front ecosystem. Actions that need to be completed

include enforcement of road closures within 3 Research Natural Areas and 7 Areas of Critical Environmental Concern. (\$115,000)

Montana. Eastern Montana is the major area remaining for reintroductions of the endangered peregrine falcon. Three hack (release) sites have been developed but three more are needed. (\$116,000)

Nevada. Nevada is a pilot state for implementation of the BLM's Special Status Species data management system. Funding is needed to collect and incorporate data into the BLM's data system from several cooperators (ie., Nevada Department of Wildlife, The Nature Conservancy, Nevada Biodiversity Initiative, and the Nevada Natural Heritage Program). Funding and personnel shortages require contracting out for many tasks associated with this effort. (\$100,000)

Implement BLM's portions of the Desert Tortoise Recovery Plan in cooperation with Clark County, Nevada and the Nevada Habitat Conservation Plan. (\$400,000)

Accelerate implementation of six new Conservation Agreements (CA's) for several candidate plant species and the Redband trout statewide. These efforts, once implemented, should preclude the need to list species under the ESA. Species that are targeted for CA's include the California Bear Poppy, Blue Diamond Cholla, Soldier Meadows Cinquefoil, Williams Combleaf, Redband trout, and several plants associated with Spring Mountain. (\$150,000)

New Mexico. BLM presently lacks adequate data on the majority of listed or candidate plant and animal species Statewide. Additional funds are needed to contract or hire permanent employees to collect data and establish long-term monitoring and restoration programs on BLM lands. (\$200,000)

Oregon. BLM has several projects planned that will help recover the snowy plover. (\$120,000)

BLM is cooperating in the recovery of the bald eagle and peregrine falcon. Funding is needed for monitoring and recovery plan project implementation. (\$72,000)

Funding is needed to monitor habitat use and maintain habitat quality in release areas for Columbia white-tail deer. Projects include riparian enhancement, road management, fence removal and monitoring. Cooperators include the Oregon Department of Fish and Wildlife, the Fish and Wildlife Service, and Sportsmen groups. (\$216,000)

Due to the increasing number of special status animals in Oregon, BLM is in dire need of additional funding to inventory and monitor species and habitat. Currently, there are over 113 bird species in Oregon/Washington that are Threatened, Endangered, candidate or BLM sensitive species. (\$500,000)

Wyoming. BLM will computerize all outstanding wildlife, fish and plant study and survey information on a district-wide GIS and database compatible with the BLM database system for wildlife and vegetation data analysis. This is aimed at filling in holes in current information for prairie dog colonies, special status birds, and raptors in particular. (\$80,000)

Trumpeter swan cygnets will be released in the New Fork Pot-holes area as part of a program to expand the range of the Tri-State population (Idaho, Wyoming, Montana). Partners include the Wyoming Wetlands Society, Wyoming Game & Fish Department, and U.S. Forest Service. (\$5,000)

ACTIVITY: THREATENED AND ENDANGERED SPECIES

Utah. Begin implementation of several projects outlined in the recently completed Desert Tortoise Recovery Plan. (\$100,000)

Continue bald eagle nest monitoring along the Colorado River in southeastern Utah to determine effects of heavy recreational use on bald eagle nesting success. (\$7,000)

Continue inventory of Southwestern willow flycatcher habitat in southeastern Utah. (\$10,000)

Accomplishments:

Alaska. Completed 6 weeks of ground surveys at Carter Spit conducting aerial and ground surveys for shorebirds and waterfowl. This included documenting use of the area by threatened Stellar's Eiders, Spectacled Eiders, and Bristle-thighed Curlews during late summer and fall migration. The project collected baseline data to inventory the occurrence and abundance of all species of shorebirds, waterfowl, songbirds, and seabirds within this unique coastal mudflat. Shorebird use will be evaluated for inclusion into the Western Hemisphere Shorebird Reserve Network. The project was completed in close cooperation with U. S. Fish and Wildlife Service-Yukon Delta and Togiak National Wildlife Refuges.

Completed special status plant report for the Goodnews Bays plant survey. In cooperation with The Nature Conservancy, alpine areas in the Kilbuck and Ahklun mountains were surveyed for rare and endangered plants. Range extensions for up to 30 species were found, and several sensitive species were located, and unique plant anomalies were identified.

Arizona. Inventoried and monitored portions of the Lower Colorado River within the Yuma Resource Area for the Endangered Yuma Clapper rail, and proposed threatened southwestern willow flycatcher, and Category 1 species California black rail.

Continued cooperative agreement with Arizona Game and Fish and the Marine Corps Air Station on the continuation of a study concerning the proposed threatened flat-tailed horned lizard with the Yuma Resource Area. Legacy monies were provided to the BLM from the Department of Defense.

Completed final stages of Desert Tortoise Health Assessment Research in the Mojave Desert. Cooperators include Arizona Game and Fish Department, University of Arizona, National Biological Service, and BLM in Arizona and Utah.

Completed first phase and continued second phase of Desert Tortoise Ecology and Physiology Research in the Mojave Desert. Cooperators include the National Biological Service (lead agency), and Arizona and Utah BLM.

Completed native fish population monitoring in the Virgin River and assisted in development of a draft conservation agreement for Virgin spinedace in the Virgin River, Mohave County, Arizona. Cooperators include the U.S. Fish and Wildlife Service, BLM in Arizona, Utah and Nevada, Utah Division of Wildlife Resources, Arizona Game and Fish Department, Nevada Division of Wildlife, Washington County Water Conservancy District.

Completed all remaining field work required for the Virgin River Instream Flow Study. Cooperators include BLM in Arizona, Utah, and Nevada.

Participated in an initial planning meeting to initiate Section 7 consultation regarding the Southwestern willow flycatcher and conducted field assessment to determine functionality of 35 miles

of riparian ecosystems along the Virgin River in Mohave County, Arizona.

In 1994, the first meeting to receive public input on California condor re-introduction to the Grand Canyon ecosystem was held in Kanab. The meeting was jointly held by BLM and Fish and Wildlife Service. Two stations were tasked with gathering environmental data about the proposed release site on the Paria Plateau.

Four listed and three candidate plant species were monitored in 1994. The Southwestern willow flycatcher, a proposed endangered species, was searched for in Kanab Creek - none were found. An Arizona Heritage Fund study of the distribution of the House Rock Valley Chisel Toothed Kangaroo Rat was initiated and nearly completed. Four peregrine eyries were monitored.

Reconstructed a Tule Creek livestock enclosure to protect 1/2 mile of riparian habitat and endangered topminnow population.

California. Tamarisk eradication efforts continued in FY94 at the Afton Canyon ACEC in order to provide habitat for endangered fish. BLM staff, volunteers, and an inmate crew removed an additional 30 acres of tamarisk this year. In addition, 50 acres of previously treated area were re-treated to combat resprouting. This latter area was also planted with cottonwood and willow poles to reestablish the native riparian woodland. During an Earth Day celebration, 55 students planted an additional 100 cottonwood trees in the Afton Canyon Campground area. Contributions of labor and funds from an Apple Valley High School and Southwestern Portland Cement Company resulted in the planting of over 700 cottonwood and willow poles in FY94. The American Forests Association (Global Re-leaf) has assisted Barstow Resource Area in locating a corporate sponsor for the Afton Canyon Saltcedar Removal Project. The sponsor, Absolut Vodka, pledged \$5,000 for the purchase of tree planting equipment in support of the Project. Volunteers have also initiated a long-term monitoring program to document the response of amphibians and reptiles to the Afton Canyon rehabilitation effort. The Barstow Resource Area staff together with staff from the Desert Studies Consortium hosted the second annual Southwestern Saltcedar Network Conference. The conference was attended by 32 agency representatives, consultants, and academicians.

In cooperation with the Stanislaus Foundation, the San Joaquin Valley Endangered Species Recovery Planning Program, and the Bureau of Reclamation, completed demographic and grazing effects studies for two federally listed animal species (blunt-nosed leopard lizard and giant kangaroo rat) in the Carrizo Plain Natural Area in the San Joaquin ecosystem.

Completed 2 prescribed fires in the Carrizo Plain Natural Area to assist the Fish and Wildlife Service in a mountain plover trapping and monitoring study. The plover is an ESA candidate bird. A small mammal trapping grid was established on one burn to monitor effects of fire to the federally endangered giant kangaroo rat.

Completed mountain plover survey routes covering 40,000 acres in the Carrizo Plain Natural Area.

Completed inventory of one mile of potential habitat for the federally proposed Southwestern willow flycatcher.

Continued inventory of the 180,000 acre Carrizo Plain Natural Area for two species of proposed fairy shrimp and one candidate amphibian species.

ACTIVITY: THREATENED AND ENDANGERED SPECIES

The BLM's fisheries Biologist Gina Sato took the initiative and reached out to private landowners in the Goose Lake Basin to form a bi-county committee to serve as an organizational focus for private property owners and local government to devise and implement a long term, cooperative, voluntary habitat enhancement program on both public and private land. The program will take action to recover all of the remaining native fish species of the basin so that endangered species listings will be unnecessary for any of them, while at the same time preserving the basin's equally unique economic resources and human communities. Moreover, several aquatic and riparian habitat protection projects were completed in 1994.

Colorado. BLM sponsored the Southwest Willow Flycatcher workshop held in Grand Junction to assist biologists from all land management agencies in adopting an inventory protocol for this species. Special inventories were completed in 2 Resource Areas in extreme southwest Colorado on the status and distribution of the Southwestern willow flycatcher in major riparian zones. Two thousand acres were surveyed for potential habitat for the Southwestern willow flycatcher, and 5,000 acres of suitable habitat were intensively surveyed for the presence of this species.

Roan and Carr Creeks were found to have very pure strains of Colorado River Cutthroat trout. Field inventory was done to determine whether barriers to migration of Brook Trout into Roan Creek existed, and to examine existing barriers on Carr Creek to determine whether they would be sufficient to stop remigration of Brook trout into the drainage after they are eradicated.

Field surveys for the presence of the Uncompahgre Fritillary butterfly were completed on 350 acres.

In cooperation with the U.S. Forest Service, contractors resurveyed 20 acres of the species type localities, and 12 known snow willow sites for the presence of the species. Two thousand acres of new potential habitat was identified during inventories.

Eastern States/Florida. The first Eastern States Resource Management Plan was completed for BLM holdings in Florida, including seven areas with surface tracts and 395,000 acres of federal mineral estate. Major components of the plan included restrictions on recreational use on coastal tracts with nesting sea turtles, special status plants, and wintering piping plover. As part of the plan, specific standard stipulations were developed to reduce impacts to special status species from potential development of Federal limestone, phosphate, or oil and gas resources. Species included are gulf sturgeon, bald eagle, red-cockaded woodpecker, Florida panther, Choctawhatchee beach mouse, bog-button, beach jacquemontia, Chapman's butterwort, and large-leaved jointweed. In addition, draft stipulations were developed for protecting heron rookeries and scrub oak and other rare plant communities. In Jupiter, Florida, baseline inventories have been completed and monitoring of a threatened Florida scrub jay population was initiated. A scoping meeting was held during FY 94 with representatives from local government, non-governmental groups, private citizens, and other federal agencies to begin the process of developing the site specific plan needed to restore and maintain this sensitive tract.

Eastern States/Arkansas. Endangered species compensation funds were collected by the Jackson District Office from oil and gas leases for work associated with the development of Federal gas resources at Fort Chaffee, Arkansas. These funds have been transferred to Fort Chaffee under an Interagency Agreement to contribute towards an ongoing monitoring program for the American Burying beetle on the installation.

Idaho. Lead poisoning in eagles in the Lemhi and Pahsimeroi River Valleys has been studied in cooperation with a private consultant (Hazmat or CCS funds of about \$15,000 annually). Elevated levels of both lead and mercury have been found in blood samples of both golden and bald eagles in the valleys and dead and injured birds have been found. Studies continue seeking the importance of the poisoning to eagle survival, the sources of contamination, nesting success, recapture rates, ties to abandoned mines, lead levels in flesh of prey such as jackrabbits, etc.

The Bonneville cutthroat trout is a candidate species being considered for listing as threatened or endangered under the ESA. The interagency team working with this species also included a grazing association. The habitat conservation assessment, the conservation strategy, and draft conservation agreement(s) to remove threats to this rare species were developed and approved by the Operations Committee. Conservation agreements are being developed now in cooperation with the Fish and Wildlife Service.

BLM is continuing to participate in a successful interagency prelisting/conservation program to remove threats from about 135 candidate and sensitive species of plants and animals so that they may not need to be listed under the Endangered Species Act. BLM has nineteen ongoing "successful" conservation agreements between BLM and the Fish and Wildlife Service with rare plants in Idaho and southeast Oregon. Approved habitat conservation assessments and conservation strategies include bull trout, St. Anthony primrose, dunes tiger beetle, Wood River sculpin, Bonneville cutthroat trout, Idaho ground squirrel, Christ's Indian paintbrush, and nearly approved strategies for the Coeur d'Alene salamander and harlequin duck. Technical teams completed strategies on 37 additional species early in 1995.

BLM assisted in bald eagle research (South Fork of Snake River), protection of nests and roosting areas (statewide), monitoring (esp. winter surveys), and recovery plans for Pacific Northwest and Greater Yellowstone Ecosystem. Partners include various state and federal agencies, including Idaho Fish and Game, the Fish and Wildlife Service, the Forest Service, and the National Park Service, as well as the Audubon Society, University of Montana, Greater Yellowstone Ecosystem Group, private landowners. Costs in FY 1994 were about \$34,000. In addition, BLM has several watchable wildlife/environmental education sites for bald eagles.

Partners in peregrine falcon management in Idaho included The Peregrine Fund, Idaho Fish and Game, the Forest Service, and private corporations. Costs in FY 1994 were about \$36,000 and involved chick rearing for reintroductions, inventory/monitoring, and environmental education. Successful nesting in the wild in Idaho has been re-established.

Recovery of Snake River fall chinook, spring/summer chinook, and sockeye salmon is progressing. Most of the effort was in the Cottonwood, Challis, and Lemhi Resource Areas and the State Office, and about \$3 million was spent in FY 1994. Work included Section 7 consultation on 40 land cases, rights-of-ways, exchanges, etc.; all timber related activities; all livestock grazing activities; increased grazing-use supervision; Landscape Ecology Modeling and Analysis support; watershed and water quality monitoring; consultation on all ongoing and new actions necessary under ESA; 122 miles of stream habitat inventory and evaluation; roads and recreation facilities maintenance to reduce sediment and impacts; and fisheries habitat improvement projects.

ACTIVITY: *THREATENED AND ENDANGERED SPECIES*

BLM biologists participated in monitoring, environmental education, and recovery efforts in the recent reintroduction of gray wolves.

Montana. Four releases (hacking) of captive-reared endangered peregrine falcons were completed on BLM lands at Holter Lake, Devils Kitchen, and two sites on the Wild and Scenic Missouri River. Two releases were in cooperation with The Peregrine Fund and Montana Fish, Wildlife, and Parks and the two releases on the Missouri River were provided by Ralph Rogers, a nationally known falconer who lives in the area. A total of 28 birds were released and 26 fledged. A 2-year old bird returned to the Missouri River from a previous release. Wild nesting could occur as early as 1995. In 1980, there were no known wild nesting peregrine falcons in Montana. In 1994, there were 16-18 wild pairs known to have nested, all a result of the release program of which BLM has been a major participant. Over 300 miles of the Yellowstone River was inventoried for nesting peregrine falcons and hack (introduction) sites were identified. The BLM partnered with the Craighead Institute and the Peregrine Fund to accomplish the inventories that stretched across two districts and four resource areas. Additional hacking will occur on the Yellowstone River and other areas in eastern Montana in FY95 and beyond.

Fauna West and the Montana Department of Fish, Wildlife, and Parks partnered with BLM to conduct a statewide mountain plover habitat identification and description. A final publication of the habitat requirements of the bird will be published in FY95. The mountain plover is a candidate species under the Endangered Species Act and the bird will likely be listed as threatened in the near future.

More than 180 miles of habitat on the Yellowstone River, Clarks Fork of the Yellowstone River, Powder River, and 175 miles on the Clarks Fork River and adjacent streams in the Columbia River drainage were monitored for nesting success of the bald eagle. In addition, 18 bald eagle nests were monitored for nesting success and 175 miles examined for new nesting efforts. New nest attempts, nesting activity, and fledgling success were also documented to provide data necessary to remove the bird from the endangered species list.

Montana Power Company, Helena Chamber of Commerce, and Montana Fish, Wildlife, and Parks combined efforts and developed a public viewing and education center for the endangered bald eagle below the Canyon Ferry Dam. The Helena school system, as well as hundreds of private citizens, visit the eagle concentration area during the winter each year. Additionally, BLM and five other agencies and organizations continued a bald eagle concentration study for the area.

Baseline data was gathered in the Dillon Resource Area, Butte District, on 125,000 acres of candidate species pygmy rabbit habitat in cooperation with Montana Fish, Wildlife, and Parks. The project delineated the distribution and determined that the most suitable habitat is currently unoccupied. BLM will examine what is needed to prevent the pygmy rabbit from becoming endangered or threatened and decisions will be made and implemented in the upcoming resource management plan for the Dillon Resource Area.

New Mexico. Numerous Sikes Act habitat stamp projects were worked on in 1994. Two burns, Azabache and Pot Mountain, and several fences were completed in 1994. Many other projects are in various stages of development. Approximately 24 work-months (\$84,000-BLM funds), and (\$150,000 Sikes Act Funds) were targeted for FY94 projects.

Three areas (Rio Grande River, Bluewater Creek, Upper Rio Puerco) comprising approximately 400 acres were inventoried for Southwestern willow flycatchers in 1994. Volunteers as well as BLM employees outside of the Biological field participated. One workmonth and vehicle costs (\$400) were the only costs associated with these surveys. Flycatchers were located along the Rio Grande River, but none were found at the other two locations.

Conducted cooperative studies with New Mexico Department of Game and Fish and oil and gas industry on the State endangered Dunes sagebrush lizard. Studies include determination of occupied range of the lizard and impacts to their habitat from shinnery oak herbicide treatments.

Continued Challenge Cost Share studies with New Mexico Game and Fish, and TNC on Montezuma Quail, Kuenzler hedgehog cactus, and two State endangered species.

Oregon. Conducted blasting, diking, and burning in the Klamath District to restore the Warner Wetlands just East of Plush, Oregon. Snowy Plover Inventory was conducted on Abert Lake north of Lakeview.

Monitored 318 Northern spotted owl sites, of which 205 were occupied. Nesting was confirmed at 97 sites which fledged 124 young.

Inventoried Marbled murrelet on 8,000 acres of suitable habitat and monitored two occupied sites. One nest was located and monitored through successful fledging.

Utah. Mexican spotted owl inventories, monitoring, and prey base studies were conducted. The various studies focused on known or suspected spotted owl habitat in central and southern Utah. Partners included the Forest Service, Park Service and National Biological Service.

Conducted bald eagle nest monitoring in the Moab District. Monitoring of 4 known bald eagle nests and conducted inventories for new nest locations in southeastern Utah in the Moab District. The main purpose of the study is to determine the impacts of high recreational use and disturbance to the nesting eagles. This information will be used for determining management prescriptions for the Colorado Riverway area. Partners included the Utah Division of Wildlife Resources and the Canyonlands Raptor Center.

Monitored 10 peregrine falcon nests primarily in southeast Utah for productivity. Partners included Utah Division Wildlife Resources and volunteers.

Wyoming. Five trumpeter swan cygnets were released in the New Fork Potholes area in the Pinedale Resource Area as part of a program to expand the range of the tri-State population (Idaho, Wyoming, Montana) of this candidate species. An artesian water well was drilled to provide a continuous supply of water to the potholes where the swans are being released. Partners: Wyoming Wetlands Society, Wyoming Game & Fish Department, U.S. Forest Service, and private landowners.

For the second year, 5 fledgling peregrine falcons were released at the BLM hack site near Cora, Wyoming. This is a cooperative project to bring peregrines back to the upper Green River Basin in support of the national recovery plan. One nesting pair was sighted this summer in the area. Partners: The Peregrine Fund, Wyoming Game & Fish Department, U.S. Forest Service, and adjacent landowners.

ACTIVITY: THREATENED AND ENDANGERED SPECIES

Reintroduction of six (6) peregrine falcons was completed in FY94, and these birds were successfully fledged on the west slope of the Bighorn Mountains in northcentral Wyoming. The peregrine falcons were released under the guidance of the Washakie Peregrine Falcon Habitat Management Plan. Partners: The Peregrine Fund, and the Wyoming Game and Fish Department.

For the eighth consecutive year a mid-winter bald and golden eagle survey of 125,600 acres in Wyoming's Bighorn Basin was conducted. The BLM, National Park Service, and Shoshone National Forest coordinated the survey, supervised volunteers, and tabulated the survey results. Over 100 volunteers contributed over 700 hours to complete this survey. Partners: Over 100 local and regional volunteers, U.S. National Park Service-Bighorn Canyon National Recreation Area, Shoshone National Forest.

Special Status Plants

Needs:

Alaska. Initiate a statewide inventory of 300 special status plant species and 17 candidate species known or suspected to occur on BLM lands. Surveys of large, remote areas in Alaska are expensive and require extensive helicopter support. (\$720,000)

Arizona. Conduct a study of soil types associated with known populations of Brady's pincushion cactus to enable better prediction of long term management. (\$20,000)

California. Inventory, monitor, and protect habitats for 229 species of special status plants in all bioregions. (\$780,000)

Colorado. There are 57 Federal candidate species, mostly plant species, requiring information on status, distribution, and identification of land use impact. Additional inventory information in this area would assist in the implementation of the Candidate Species MOU to preclude future listings and may remove some candidates from being considered for listings. (\$120,000)

New Mexico. Continue the Challenge Cost Share studies in conjunction with the New Mexico Department of Game and Fish and The Nature Conservancy to determine impacts of oil and gas on the State listed Dunes sagebrush lizard and habitat impacts on the Federally-listed Kuenzler cactus. (\$50,000)

BLM presently lacks any specialized botanical expertise to develop cooperative rare plant management programs in the State. Only 5 percent of the existing candidate and listed plants believed to occur on BLM lands have been surveyed. Professional botanists are needed to oversee inventory and monitoring of the large number of federally listed and candidate plants. (\$200,000)

Utah. Continue inventory and monitoring efforts associated with Welsh's milkweed. (\$25,000)

Continue inventory and monitoring efforts for the dwarf bear-claw poppy as part of an ongoing cooperative cost share project with Brigham Young University. (\$30,000)

Wyoming. The Rock Springs District has set up an inventory/monitoring program for special status plants. Of the 18 species identified in the District, 8 species still need surveys. For FY96, 3 species would be surveyed for population size and distribution. Partners include The Nature Conservancy (Wyoming Natural Diversity Database). (\$14,000)

The precocious milkvetch, a candidate species, occurs adjacent to an old dump (McKinnon site) which is being reclaimed. To ensure adequate protection, BLM will fence the entire known population. (\$10,000)

Special status plant inventories are needed for sensitive and unique plant communities to provide valuable information on species abundance and distribution. Partners include TNC and the University of Wyoming - Department of Botany. (\$20,000)

Accomplishments:

California. Completed monitoring study to evaluate effects of geophysical operations on a listed plant species (Kern mal-low), two listed animal species (giant kangaroo rat and blunt-nosed leopard lizard) and a candidate animal species (short-nosed kangaroo rat) in the Carrizo Plain Natural Area.

Colorado. Through a cooperative effort with Washington University in St. Louis, financial support was provided for genetic sampling of the clay loving wild buckwheat, to determine if this endangered species was a valid species. Additional cooperative work with the University of Wyoming resulted in completing a floristic inventory of the San Miguel River watershed. Inventories of habitat for clove phlox (200 acres) and Mesa Verde cactus (300 acres) were completed. Inventories were also completed on 5,000 acres of habitat for the skiff milkvetch, and 12 known sites were resurveyed in cooperation with the Colorado Natural Areas Program, and the Colorado Native Plant Society. Four trend transects were also completed. Inventories were conducted on 5,000 acres of Gunnison milkvetch habitat and numerous new occurrences of this species were reported. Funding was provided to the Colorado Natural Areas Program to assist in a study of potential threats to the candidate species *Phacelia submutica* in the DeBeque area. The Dolores River was inventoried for the listed *Spiranthes diluvialis*.

Idaho. The Christ's Indian Paintbrush is an alpine plant restricted to a Forest Service peak in southcentral Idaho. An interagency/interdisciplinary technical team developed a habitat conservation assessment and conservation strategy for the plant and the conservation agreement in nearing completion so that this species will not need to be listed.

Montana. Over 348,000 acres were inventoried for 34 sensitive plant species in two districts and four resource areas. The BLM partnered with the Montana Natural Heritage Program, Montana State University, and Alder Springs Consulting Firm.

New Mexico. Completed rare plant monitoring in the Farmington District through cost sharing with consulting firms.

Oregon. Noxious weed inventory and control was conducted throughout the Klamath District. Four candidate plants were monitored.

Vegetation inventory was conducted on 6,600 acres of the North Bank Habitat Management Area in Roseburg District. Noxious weed control was completed utilizing biological agents.

Utah. Monitoring of Welsh's milkweed and the Dwarf Bear Claw Poppy continued in southern Utah. These are species which require continuous monitoring due to land use activities in the areas they occupy. Southern Utah University and Brigham Young University were partners on these projects.

Two plant surveys were completed in the Richfield District to provide occurrence, distribution, and management recommendations. The two species were *Scelerocactus wrightiae* and *Penstemon angustifolius dulcis*. Partners included Intermountain Ecosystems and Red Butte Botanical Gardens.

ACTIVITY: *THREATENED AND ENDANGERED SPECIES*

Wyoming. Status surveys and monitoring for special status plant species whose distributions traverse district boundaries are being done as cooperative efforts between Rock Springs and Rawlins Districts. The status surveys on 8,000 acres was a cooperative cost share project. Partner: The Nature Conservancy (Wyoming Natural Diversity Database).

BLM inventoried 30,000 acres for special status plants in the Steamboat Mountain ACEC in support of development of the Jack Morrow Hills Ecosystem Management Plan. Established a monitoring program for 9 sensitive plant species on an additional 8,000 acres of public lands.

A district-wide floristic inventory is being done in cooperative cost-share with the Rocky Mountain Herbarium (University of Wyoming). Over 1.5 million acres were done this FY. The District will be completed in 3 years.

Undertook a general, area-wide plant survey of the Great Divide Basin and Sweetwater River Valley areas. These areas have been only partially floristically surveyed in the past, and this overall survey should yield valuable information on species composition and the existence of any sensitive plant species. This was the first half of a 2-year project. Partners: University of Wyoming-Department of Botany-Rocky Mountain Herbarium.

To implement the habitat management plan for the small rockcress, a candidate special status plant, BLM replaced and extended a protective fence to enclose 500 acres and the entire known population. BLM also initiated a minerals withdrawal and completed an ORV/motor vehicle withdrawal for the HMP area. The plant is found around Pine Creek in the historic South Pass area of Wyoming.

An ACEC for four candidate plant species was created within the Green River RMP area, and a habitat management plan is currently being prepared for this unit.

Developed a specific sensitive plant survey to inventory suspected habitats within the South Pass/Beaver Rim areas of central Wyoming for four plants: Cedar Rim thistle; Fremont bladderpod; the large-fruited bladderpod; and desert yellowhead. A total of 7,220 acres of habitat were inventoried. Partner: The Nature Conservancy.

Special Status Fish

Needs:

Arizona. Conduct life history livestock grazing impact studies on populations of Gila chub and Gila topminnow. (\$84,000)

Establish and begin monitoring several species of Virgin River fish species that are Federally listed or candidates for listing. (\$5,000)

Complete the Bill Williams River instream flow study. This study is vital to establishing long-term water needs to maintain the riparian and aquatic ecosystem. (\$6,000)

Colorado. Continue to study effects of proposed or authorized BLM actions on Colorado River fishes, especially the potential effects of water withdrawal from the Colorado River system. (\$100,000)

Idaho. Conduct key area monitoring and upland watershed health assessments where listed species occur, and increase data collection in order to develop Habitat Conservation Strategies for 31 federal candidate species. (\$155,000)

Continue aquatic monitoring and fish survey, riparian evaluations, and begin modification of existing roads and other structures that are causing siltation into streams. (\$230,000)

Nevada. Restore 180 miles of stream along Nevada's Mary's River for riparian habitat, Lahontan cutthroat trout, redband trout, 11 candidate species, and neotropical migrants. (\$350,000)

Implement riparian habitat projects along the Bruneau and Quinn Rivers in Nevada, and a National wildlife/livestock demonstration area, being managed for Lahontan cutthroat and Redband trout. (\$400,000)

Oregon. The mountains of southeastern Oregon support the threatened native Lahontan cutthroat trout. Funding is needed to complete numerous habitat enhancement projects, protective fencing, and improved livestock grazing management. (\$160,000)

Recovery of the Borax Lake Chub in southeastern Oregon calls for several habitat protection measures and improved grazing management. (\$75,000)

Warner Sucker habitat protection and monitoring is needed for this threatened native fish. (\$32,000)

Klamath Basin recovery for the Fosskett Dace requires stabilizing eroding soils and providing habitat diversity, and reconstructing one spring development. (\$5,000)

Utah. Conduct inventory and monitoring of resident special status fishes in the central Utah area where the quality of habitat continues to deteriorate. (\$30,000)

Wyoming. Unless work is done to improve habitat and survival of the Bonneville cutthroat trout, this special status fish will be listed as Threatened. Several fencing projects are planned, along with improved livestock grazing management. Partners include the Wyoming Game & Fish Department, Trout Unlimited, Bridger-Teton National Forest, and the University of Wyoming. (\$30,000)

Continue implementation of the Currant Creek/Sage Creek project. The objectives are to restore crucial habitat for Colorado River cutthroat trout and maintain the area's biodiversity. Projects include prescribed burning, instream structures, and protective fencing. When completed, the entire project will have enhanced 118,000 acres of diverse habitats. Partners include the Wyoming Game & Fish Department, Rocky Mountain Elk Foundation, livestock permittees, Trout Unlimited, Sweetwater Wildlife Association, and Bowhunters of Wyoming. (\$15,000)

Accomplishments:

Arizona. In cooperation with the Arizona Game and Fish Department, Gila Chubs were reintroduced into 3 sites on public lands in the Phoenix Resource Area. Special status fish species populations were monitored along 8 streams. The District assisted the Bureau of Reclamation with monitoring resident fish populations along the Gila River below Coolidge Dam. Instream flow data collection, well point monitoring and macroinvertebrate monitoring is ongoing. An enclosure fence was renovated around 1/2 mile of stream occupied by Gila Topminnow.

The coordinated sampling of fish populations in Aravaipa Creek with The Nature Conservancy was completed in Arizona. Species included the threatened Spike Dace and Loach Minnow, as well as the candidate Sonoran Sucker, Desert Sucker, and Gila Chub. The upper 7 miles of Bonita Creek were sampled for the

ACTIVITY: THREATENED AND ENDANGERED SPECIES

presence of the listed endangered Razorback Sucker. None were found.

The Shivwits Resource Area inventoried 35 miles of riverine habitat for presence of Federally endangered Woundfin Minnow and Virgin River Chub and candidates Virgin River Spinedace, Flannelmouth Sucker, and Desert Suckers. They conducted hydrologic analysis of flow requirements along 124 miles of river for these same species to determine the quantity and quality of available habitat, flow requirements, availability of spawning and rearing habitat, and life history data. Studies of growth and the timing of spawning were also carried out.

Five coves in Lake Havasu were renovated to serve as predator-free rearing areas for special status fish. Over 36,000 juvenile Razorback Suckers and 44,000 juvenile Bonytail Chub are being reared in these coves and eventually will be stocked into the lake.

Biologists are working closely with Havasu Resource Area realty specialists to resolve a long-standing trespass (illegal use of public land) located in Razorback Sucker critical habitat on the Lower Colorado River. Biologists informally consulted with the U.S. Fish and Wildlife Service to coordinate resolution of this issue.

Wyoming. The Rawlins District completed the Colorado River Cutthroat Trout - Little Snake River Enclave Plan for the conservation and reintroduction of Colorado River Cutthroat Trout, a candidate species. This is a cooperative effort with the Wyoming Game and Fish Department, the Forest Service, and the Fish and Wildlife Service.

NFWF Recommendations

ACTIVITY: (+\$2.3 million)

Threatened and Endangered Species

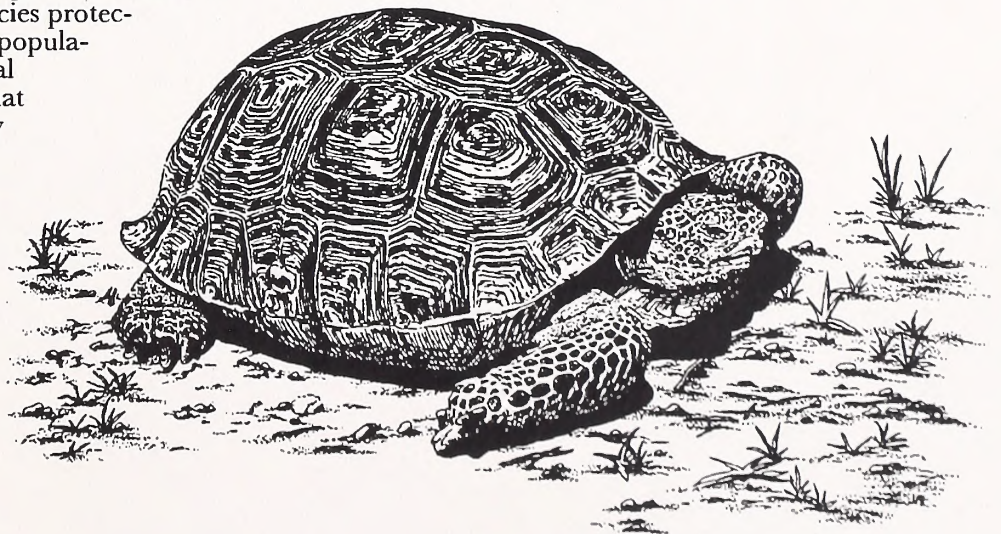
Overview: In FY 1996, the President's Budget is recommending level funding for the Threatened and Endangered Species Activity. The proposed level of funding for FY 1996 is \$18.3 million. The Foundation recommends two increases over the President's Budget for two specific initiatives: Special Status Plants; and Bat Conservation.

1) The Foundation recommends an increase of \$2 million to the FY 1996 President's Budget for threatened, endangered, and sensitive plant recovery and protection efforts. This increase would allow the Bureau to make additional progress on accomplishing the following: 1) complete inventories on 143 million acres to determine location, abundance, and threats to sensitive plant populations; 2) complete nearly 460 studies on specific plant populations to define biological and ecological needs and to develop actions that will be required to recover species to stable population levels; 3) construct 250 projects for plant species protection; 4) expand monitoring of known populations; and 5) implement environmental education and awareness programs that will aid in the protection and recovery of species that are especially vulnerable to human activities.

2) The Foundation recommends an increase of \$300,000 above the President's Budget request of \$18.3 million for the Threatened and Endangered Species Activity. This \$300,000 should be transferred, under a Memorandum of Agreement, to Bat Conservation International for the following purposes:

- a) \$150,000 should go to support two full-time positions dedicated to providing technical support to Federal and state agencies on bat conservation techniques; and
- b) \$150,000 should go to challenge cost-share (multi-partner) projects in support of the Bats and Mines Project. These funds will be matched by states, non-government organizations, and other Federal agencies.

*The Desert Tortoise is found in California, Nevada, Utah, and Arizona.
Courtesy of Jean Harrison*



Appropriation: Management of Lands and Resources

- Activity: Land Acquisition
- NFWF Recommendations

ACCOUNT: LAND ACQUISITION

(All dollars in thousands)

Activity Subactivity	FY 1995 Enacted	FY 1995 FTE's	FY 1996 Pres. Bud.	FY 1996 FTE's	NFWF Recom.
Land Acquisition	\$11,164	32	\$20,373	22	Support P.B.
Acquisition Management & Exchanges	3,593	46	4,100	48	Support P.B.
TOTAL	\$14,757	78	\$24,473	70	

The **Land Acquisition Activity**, through exchanges, easements, or outright purchases, is an very important component of BLM's overall land management strategy, and a important part of its habitat management strategy for wildlife, fish and special status species. The land acquisition activity enables the Bureau to:

- Secure key properties necessary to protect endangered species, and prevent at-risk or candidate species from becoming endangered species.
- Improve management of ecosystems and habitats by consolidating and protecting sensitive or unique areas.

- Preserve biodiversity and facilitate implementation of BLM's *Fish and Wildlife 2000* strategy plans through acquisition of important, species-rich habitats.

The **Acquisition Management Subactivity** provides technical, administrative, and program management support to the BLM land acquisition program. Land Exchanges, the preferred method of land acquisition within the BLM, improve management efficiency and provide a cost-effective acquisition method. About 250,000 acres are acquired annually through exchange, funded partially funded by the Land and Water Conservation Fund.

Introduction

An ecological approach to federal land management cannot be achieved one plot of land at a time, but must span jurisdictional boundaries if it is to succeed. The Foundation's "Management Efficiency Study" examines ways that the federal agencies can maximize efficiency and recommends ways for Federal land managers to collaborate efforts in ecosystems where there is significant federal ownership. This document will be available in the spring of 1995.

In much of the western U.S., Federal land ownership represents a patchwork on the map - mingling with BLM's lands are a myriad of other landholders, including other Federal agencies, state agencies, as well as numerous private landowners. This patchwork effect makes consistent land management that maximizes biological diversity particularly challenging.

Increasingly, the political and fiscal climate is pushing managers to come up with cost-efficient ways to protect and manage our Nation's natural resources. One method that delivers high returns for a small dollar investment is land exchange. By swapping parcels with little ecological value for lands that consolidate federal ownership and provide significant habitat value, exchanges can both remedy ecosystem fragmentation and reduce endangered species conflicts. Several exchanges completed in FY 1995 or proposed for FY 1996 will benefit threatened and endangered species, thereby reducing the potential for conflicts between private and public landowners. Examples of exchanges that benefit both threatened and endangered species and landowners follow:

• Hunter Creek ACEC Land Exchange - Phase II, OR

In exchange for approximately 240 acres of public land, BLM will acquire 320 acres of private land at the Hunter Creek ACEC. The motivating factor for this transaction is consolidation of the BLM land pattern to allow for improved management of threatened and endangered

species and expand public access from adjoining public land. The land provides habitat for the California Lady Slipper and Waldo Gentilia plants. Local citizens, Oregon wildlife/fisheries groups, and the Kalmiopsis Society have been active in their support of this project. Estimated costs for completion of this project are \$18,000-\$24,000, depending on administrative costs.

• Double U Ranches Exchange, WA

This property was acquired by exchange to augment the 8,000 acre Fishtrap Lake LWCF acquisition in FY 1993. The parcel consists of 765 acres of important wildlife habitat which will benefit threatened and endangered species significantly. Inventories following the original acquisition discovered the presence of Water Howellia, a listed threatened plant species. BLM has been working in cooperation with Eastern Washington University in the development of a Habitat Conservation Plan for the Fishtrap management unit, with estimated contributions of over \$5,000 in research and labor. Threatened and endangered species known to use this area include the bald eagle, black tern, and sharptail grouse. Estimated cost is \$235,000.

• Morenci Land Exchange, AZ

This exchange, scheduled to be completed in FY 1996, was not initiated to protect threatened and endangered species; however several T&E species, including the eagle, peregrine falcon, loach minnow, rasorback sucker, southwest willow flycatcher, and cactus ferruginous pygmy-owl would benefit from increased quality habitat. Potentially, Phelps Dodge Corporation would acquire 4,000 acres of public land located adjacent to its active copper mine in exchange for four parcels of land which comprise 1,200 acres. Of this acreage, 280 acres are considered habitat for threatened and endangered species. This exchange would be cost-free for BLM, as Phelps Dodge will handle all administrative expenses.

ACCOUNT: LAND ACQUISITION

LAND ACQUISITION PROJECTS IN THE FY 1996 PRESIDENT'S BUDGET

(All dollars in thousands)

<u>PROJECT</u>	<u>STATE</u>	<u>FY 1996</u>
Santa Rosa Mountains	CA	\$1,800
Criterion Ranch	OR	2,100
San Pedro National Conservation Area	AZ	1,000
South Fork Snake River	ID	140
Blackfoot River	MT	200
Upper Huerfano River	CO	1,445
Organ Mountains	NM	1,440
Idaho Lands	ID	1,950
Otay Mountain/Kuchamara	CA	1,700
St. George Desert Tortoise Habitat	UT	2,000
Book Cliffs	UT	2,250
Upper Missouri	MT	2,600
Arizona Wilderness	AZ	\$748
TOTAL		\$20,373

- **Western Mojave Land Tenure Adjustment Project, CA**

The project's objectives are to consolidate public lands in areas important both for protecting critical wildlife and minimizing potential impacts to Department of Defense overlaying airspace. The project area provides critical habitat for the desert tortoise, a federally and state listed threatened species. The Mojave ground squirrel,

currently a State listed threatened species, also uses this habitat. During FY 1994, 8,500 acres of habitat were acquired through voluntary exchange by disposing of 4,700 acres of isolated public lands not necessary for species management of recovery. This exchange has taken place at no cost to BLM, as Air Force contributes funds to BLM staff working on the exchange.

Land Acquisition Projects in the FY 1996 President's Budget

1. Santa Rosa Mountains, CA (\$1,800,000)

The Santa Rosa Mountains support the nation's largest herd of state-listed Peninsular bighorn sheep, also proposed for listing under federal law. Currently, the herd numbers approximately 200 and has been declining since 1990. In addition, the only known population of desert slender salamander occurs in one small box canyon within the Scenic Area. Other important wildlife resources include habitat for the federally-listed Least Bell's Vireo, numerous raptor nesting sites and rich array of wildlife species, including mule deer and mountain lion. There are also two wild horse herd management areas within the Scenic Area boundaries. Over 500 species of plants have been recorded in area, including six listed or sensitive plant species. Of particular interest are eighteen fan palm oases. This unusual plant assemblage occurs where water runs close to the surface and provides an oasis for wildlife species which could not otherwise survive in the surrounding more xeric environment.

This Scenic Area, in close proximity to several resort communities including Palm Springs, is deluged by 2 million visitors annually and is threatened by residential development. The most critical bighorn sheep area was incorporated into the Palm Springs City limits for future residential and commercial expansion. The threat of hillside development along the fringes of the mountain range and major development proposals for the interior were the impetus for a coordinated land acquisition program begun in 1980 between BLM and

the California Department of Fish and Game. To date, the BLM and the State of California have acquired over 59 square miles.

2. Criterion Ranch, OR (\$2,100,000)

This project will acquire an area of national significance, containing historic, cultural, scenic and ecological value within and adjacent to a federally designated Wild and Scenic River and State Scenic Waterway. The acquisition area, situated along the Deschutes River Canyon, would enhance manageability of public land by connecting 9 existing tracts of public lands which support elk, antelope, and mule deer. Bird species found within the area include chukar, quail, eagles, hawks and numerous non-game species. The upland areas offer majestic vistas of the river, the Cascade Mountains and adjacent areas. In addition, there is a high probability that several caves near the Deschutes River contain significant cultural resources. When combined with the existing adjacent public lands, this project would provide the largest single block of BLM managed lands on the lower Deschutes River. The acquisition is in conformance with the Two Rivers Resource Management Plan, completed by BLM in 1986.

3. San Pedro Riparian National Conservation Area, AZ (\$1,000,000)

This project will consolidate federal ownership within the San Pedro Riparian National Conservation Area (RNCA) in

compliance with the Arizona-Idaho Conservation Act of 1988. The proposed acquisition will prevent future conflicting uses and development of the Conservation Area. The San Pedro River is one of the last free-flowing rivers in the desert southwest and is a major migratory corridor for many species of neotropical birds. For its size, the area has the highest known diversity of bird life of any non-coastal area in the United States: 381 species of birds have been observed in or adjacent to the RNCA. Primary vegetation communities of concern include the mesquite bosque and cottonwood willow forest types which are found only in well watered areas of the desert such as the RNCA.

4. South Fork Snake River, ID (\$140,000)

According to the U. S. Fish and Wildlife Service, the South Fork Snake River is the best cottonwood/riparian ecosystem remaining in the western United States. It is considered one of Idaho's most important ecosystems; it fledges over one-half of Idaho's bald eagles; and supports a trophy trout fishery. Current acquisitions have focused on the canyon stretch of the river. However, the impetus to protect land through acquisition is growing due to subdivisions and other developments that are incompatible with the natural character of the river area. Acquisition of this area will benefit both the ecosystem and public use and enjoyment.

5. Blackfoot River Corridor, MT (\$200,000)

This combination land exchange (75%) and purchase (25%) will provide outstanding opportunities for wildlife viewing, fishing, and hunting. The two tracts of land proposed for acquisition within the river corridor possess exceptional biological diversity and high scenic values. Because of the scenic qualities, these areas are threatened by subdivision development. Public ownership will preserve the natural values for public use.

The entire area is important winter range for white-tailed deer, mule deer, elk, and moose. The richness of this raptor habitat provides seasonal and yearlong foraging and nesting for bald eagles, golden eagles, osprey, prairie falcon, red-tailed hawks, great horned owls, and saw-whet owls. The diverse habitat also supports cavity dwellers, including pileated woodpecker and mountain bluebird, as well as neotropical migrant songbirds. The Blackfoot River and its tributaries historically have had abundant trout species -- bull, cutthroat, brown, and rainbow. Remnant wild populations of native trout, bull, and cutthroat still occur. Mountain whitefish add to the winter fishing popularity.

6. Upper Huerfano River, CO (\$1,445,000)

The Upper Huerfano River valley contains some of the most unique and outstanding wildlife values in southern Colorado. The diverse habitats, which include blue grama grasslands, riparian areas, woodlands of pinyon-juniper or ponderosa pine, spruce-fir forests, aspen parks, and alpine meadows, provide critical winter range, calving areas, and migration corridors for the Rocky Mountain elk. Elk have increased in suitable habitats throughout the area and now number between 1,000 and 1,200 animals. A herd of approximately 125 bighorn sheep is expanding and provides sport hunting where access can be gained. Pronghorn antelope are found in the lower grassland habitats throughout the area and mule deer are numerous in mountain shrub habitats. Other species include mountain lion, black bear, coyote, and many other predators. Blue grouse, Merriam's turkey, and band-tailed pigeon are common.

Unique geologic features of the area are the volcanic dikes that protrude from the mountains. These dikes provide outstanding nesting habitat for raptors. Golden eagles, red-tailed hawks, kestrels, and great horned owls use the dikes extensively and are numerous. The area also has suitable habitat for the endangered peregrine falcon and Mexican spotted owl. Numerous creeks and small streams drain from the high mountains throughout the area and brook, cutthroat, and brown trout.

BLM has an opportunity to purchase 3,600 acres in the first phase of acquisition in this area. It is estimated over 60 percent of the remaining lands can be acquired by land exchange. BLM is also pursuing partnerships with non-profit organizations to assist in the preservation of these lands.

7. Organ Mountains, NM (\$1,440,000)

This project will acquire private lands within the Organ Mountains to protect ecological and visual resources and diminish significant pressure for rural residential development on private land in the area. This area provides habitat for approximately 250 species of birds and 70 species of mammals, including the federally endangered peregrine falcon. A variety of archeological sites as well as historic sites, including Van Patten's resort and Boyd Tuberculosis Sanatorium ruins exist within the area.

8. Idaho Lands, ID (\$1,950,000)

This acquisition project is the result of an interstate land exchange authorized by the Arkansas-Idaho Land Exchange Act of 1992. Approximately 18,700 acres of high value old growth forest land were removed from the District's available exchange base as a result of the interstate exchange between the U. S. Fish and Wildlife Service and Potlatch Corporation. Acquired properties will enhance public use of a Special Recreation Management Area, improve a jointly managed wildlife management area, and increase public land ownership within an Area of Critical Environmental Concern. Several miles of a pristine creek within a sensitive watershed would be acquired, allowing protection of a high-quality fishery and forest habitat.

9. Otay Mountain/Kuchamaa, CA (\$1,700,000)

This project will acquire 10,000 acres of private land near the city of San Diego and provide linkage between the approximately 18,000 acres of public lands in the area. The Otay Mountains support the rapidly diminishing habitat of the coastal sage scrub and California gnatcatcher. The BLM, in conjunction with the California Department of Fish & Game and the U.S. Fish & Wildlife Service, signed a Memorandum of Understanding (MOU) with the City and County of San Diego and the San Diego Association of Governments (SANDAG) to develop a proactive, coordinated planning and acquisition effort for lands necessary to protect the habitats of the area's native plant and animal species.

The project area supports fifteen plant species which are candidates for federal listing, including the world's largest stand of Tecate cypress. Four other species of plants are found on or in the vicinity of Otay Mountain. Thirty seven plant species found on Otay Mountain are listed as sensitive by the California Native Plant Society. Sensitive wildlife species found there include the California Gnatcatcher, and two federal candidate species, the orange-throated whiptail, and coast horned-lizard. Other wildlife species of interest are mountain lion, mule deer, ringtail cat, and the Monterey and the arboreal salamanders. The Otay Mountains are also culturally and religiously significant to the Kumeyaay People. The Bureau will work closely with the U.S. Fish and Wildlife

ACCOUNT: LAND ACQUISITION

Service, the California Department of Fish and Game and San Diego County to coordinate management of key areas.

10. St. George Desert Tortoise Area, UT (\$2,000,000)

BLM and Washington County, Utah are coordinating the preparation of a Habitat Conservation Plan (HCP) under the Endangered Species Act for the Mojave Desert Tortoise and seven other federally listed threatened and endangered species, and 39 candidate species. The plan is consistent with the recommendations of the recently released Draft Desert Tortoise Recovery Plan. Preserved lands will be under BLM ownership and management. It is anticipated that through the HCP, up to \$10,000,000 will be collected over the course of the 20-year permit period. Those funds will pay for some land acquisition, BLM staff costs, fencing, and other mitigation measures.

11. Book Cliffs, UT (\$2,250,000)

This cooperative project proposes to acquire private lands to improve management of wildlife and fisheries, and provide increased recreational opportunities. The ranches, located in canyon bottoms which contain streams and roadways, provide access to nearly 450,000 acres of Federal and State lands. The project, encompassing 50 miles of trout fishery and riparian habitat, provides excellent recreational opportunities as well as the potential to reestablish sensitive species such as peregrine falcon, bald eagles, and Colorado cutthroat trout.

Other important wildlife species in the area include deer, elk, antelope, mountain lion, black bear, waterfowl, shorebirds, blue and sage grouse, golden eagles, numerous hawks, and many small mammals, birds, amphibians, and reptiles. Several endangered or sensitive species reported in the area include wintering populations of bald eagles, the Mexican spotted owl, ferruginous hawk, peregrine falcon, and Colorado cutthroat trout. Moose, bison, and bighorn sheep have also been reported in the area. Cooperators include the Utah

Division of Wildlife Resources, Rocky Mountain Elk Foundation, and The Nature Conservancy.

12. Upper Missouri National Wild & Scenic River, MT (\$2,600,000)

This project will acquire several properties essential to good river management along the Upper Missouri National Wild and Scenic River, and the Lewis and Clark National Historical Trail. These properties include part of the Judith River and important scenic, ecological, historical, cultural, wildlife and recreational resources, as well as key access points. The Judith River is one of the last free-flowing rivers on the Great Plains and contains a fully functioning riparian ecosystem. In addition to improved access to the River, BLM has entered into discussions regarding the development of cooperative wildlife enhancing projects for upland game birds and waterfowl.

13. Arizona Wilderness, AZ (\$748,000)

The purpose of this project is to acquire private and State inholdings within the designated wilderness areas in Arizona. Federal acquisition and consolidation of lands and access will be critical to successfully managing the areas to preserve and protect wilderness values, recreation values, wetland/riparian values, scenic values and threatened/endangered species and habitat. Currently, the potential exists for degradation from commercial/private development, range improvements and road construction to private inholdings.

The wilderness areas represent the great Southwestern deserts -- the Sonoran, Mojave and Chihuahuan. These desert lands provide contrasting scenery and abundant recreational opportunities. Rocky escarpments provide important habitat for bighorn sheep. A variety of wildlife including peregrine falcons, deer, javelinas, desert tortoise, Gila monsters, Coatimundi, quail, and raptors exist in these areas. The lush riparian vegetation along Aravaipa Creek and its tributaries provide a desert sanctuary for at least 158 species of birds including the vermilion flycatcher and the Gambel's quail.

Unfunded Land Acquisition Projects

1. Lower Salmon River, Idaho (\$3,500,000)

The BLM has already successfully protected over 930 acres of this area using a variety of acquisition tools including less than fee interests, exchanges and direct purchase. Negotiations continue with the remaining eleven landowners who possess critical public resources.

The lands, which are threatened with development, provide habitat for the northern bald eagle, and the Snake River spring/summer chinook salmon, a threatened species, as well as several species of big game. Acquisition would protect several river water-based recreation sites which receive constant summer use by white water rafters and power boaters. Access and conservation easements, where appropriate, would enhance legal public access and preclude subdivision and/or development inconsistent with the natural character of adjoining BLM lands and public resources.

Local elected officials, the Governor, and the Idaho congressional delegation have all supported the efforts of the BLM to acquire and manage lands with high public values both generally through the District's Land Tenure Adjustment

(LTA) Planning Amendment, and specifically with regard to the Lower Salmon River Corridor acquisitions included here. Partners in the Bureau's planned acquisitions include: Idaho Department of Fish and Game, Kootenai Environmental Alliance, Wilderness Society, Idaho Conservation League, Idaho Steelhead and Salmon Unlimited, Idaho outfitters and Guides Association, American Rivers, Idaho Rivers United, The Conservation Fund, and The Nature Conservancy.

2. San Sebastian Marsh ACEC, California (\$500,000)

The San Sebastian Marsh/San Felipe Creek project embraces a perennial water source in an otherwise arid environment. The area attracts wildlife because of the year-round surface water and emergent vegetation and provides critical habitat for several state and federally listed species, including the desert pupfish. Marsh vegetation also supplies habitat for the federally listed Yuma clapper rail and the state listed California black rail. The uplands surrounding the marsh are habitat for the flat-tailed horned lizard, a candidate for federal listing. Because this land is the watershed for San Felipe Creek, less than judicious development could contami-

nate or cause turbidity to San Felipe Creek, consequently affecting the pupfish. The San Sebastian Marsh/San Felipe Creek ACEC currently offers bird walks and interpretive hikes that explore the value of wildlife in addition to some of the archaeological resources found within the ACEC.

In recent years, BLM has learned of several development proposals involving lands within the project area. Proposed farming operations would reduce the amount of upland habitat in ACEC. In addition, use of ground water could affect water levels in San Felipe Creek, having a negative impact on the desert pupfish habitat. The use of pesticides and fertilizers on lands within the watershed could also affect pupfish survival if introduced into the Creek. Private lands within the project area are also used for camping and as off-road vehicle staging areas. These uses impact wildlife, historical, and cultural values, and are inconsistent with the BLM off-road vehicle closure of public lands that was designed to protect these values.

3. Chilly Slough, Idaho (\$260,000)

This large, natural wetland is a rare resource in the Intermountain region and supports peregrine falcon, ducks, geese, and sandhill cranes. With improved grazing management, the site could be a transplant site for endangered whooping cranes and trumpeter swans, as well as significantly increasing other wildlife populations. Because the project site is located only 40 miles from Sun Valley, a rapidly growing recreational community, there is considerable support from hunters and fishermen to acquire portions of this wetland. Currently, BLM owns 900 acres in the area, in seven separate, non-contiguous parcels. Because of this fact, livestock

management is nearly impossible. Purchase of adjoining lands would help to solve this problem and would significantly increase wildlife and recreational value. The project has support from the U.S. Fish and Wildlife Service, Idaho Departments of Fish and Game, Parks and Recreation; Idaho Wildlife Federation, Idaho Wildlife Council, Idaho Conservation League, the Idaho Wildlife Society, The Trumpeter Swan Society, and The Wilderness Society.

NFWF

(No Change to
President's Budget)

Recommendations

The Foundation recognizes the need for a strong land acquisition program within the BLM. It is often appropriate that lands with exceptional fish and wildlife values be acquired by Federal entities to maintain unique characteristics. However, BLM, with 272 million acres, is already the largest Federal land steward, dominating the landscape in the western U.S. Though much of this land is ecologically significant, some of it is not. The Foundation recommends that the BLM place increasing emphasis on land exchanges. This program provides a win-win solution to BLM and the private sector, allowing BLM to slough off lands that would be better utilized by the private sector, in exchange for lands that contribute to sustaining fish and wildlife values. In addition, exchanges are a cost-efficient option in a time of shrinking federal dollars.



Western Prairie Fringed Orchid

Appropriation: Oregon and California Grant Lands

- Activity: Western Oregon
Resources Management
- Subactivity: Other Forest
Resources

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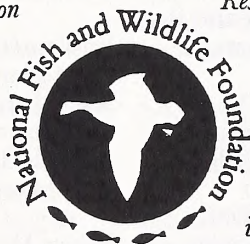
(All dollar figures in thousands)

Activity Subactivity	FY 1995 Enacted	FY 1995 FTE's	FY 1996 Pres. Bud.	FY 1996 FTE's	NFWF Recom.
Western Oregon Resources Management					
Forest Management	\$20,838	425	\$19,134	33	Support P.B.
Reforestation and Forest Development	23,000	358	26,571	381	Support P.B.
Other Forest Resources Management	26,818	328	20,028	249	Support P.B.
Resource Management Planning	1,302	25	1,325	25	Support P.B.
Subtotal, West. OR Resources Mgt.	\$71,962	1,136	\$78,222	1,214	Support P.B.

Budget Description

The Oregon and California Grant Lands (O & C Lands) Appropriations account includes four Activities: Western Oregon Construction & Acquisition, Western Oregon Facilities Maintenance, Western Oregon Resources Management, and Western Oregon Information & Data Systems.

The **Western Oregon Resources Management** Activity provides for timber sales and timber management and management of other resources including range, soil, water and air, wildlife and fisheries habitat, and recreation. The Activity contains four Subactivities: Forest Management,



Reforestation and Forest Development, Other Forest Resources, and Resource Management Planning. The focus of the Fisheries and Wildlife Assessments is, of course, the fish and wildlife conservation programs of major federal natural resource agencies. Consequently, the Foundation will only examine the Western Oregon Resources Management Activity within the O & C Lands appropriation account, and the Wildlife Habitat and Fisheries Management program element within the Other Forest Resources Subactivity. For more detailed information, please refer to the BLM's FY 1996 Congressional Budget Justification, pages 10-1 to 10-60.

Introduction

Historically, the O&C Lands have been managed for timber production rather than for multiple use. The O&C Railroad Grant Lands and the Coos Bay Wagon Road Grant Lands are managed under the Oregon and California Grant Lands Act of 1937, which requires management for permanent timber production under the principle of sustained yield. The Foundation maintains that sustainable timber production is not mutually exclusive of sound fisheries and wildlife stewardship. The Foundation strongly encourages the cross program coordination that BLM has recently made a priority. In the following two pages the reader will see some evidence of the progress the Bureau of Land Management (BLM) has made as well as the needs of the Bureau to achieve all its goals.

Land Use Plans

Overall guidance for management of specific areas within the O&C Lands is provided by land use plans for the six BLM Districts in western Oregon. In August, 1992 BLM released its draft Resource Management Plans and associated Environmental Impact Statements that had been in development for two years. In July 1993, President Clinton released his "Forest Plan for a Sustainable Economy and Sustainable Environment." The Forest Plan is a comprehensive and innovative blueprint for forest management, economic development, and agency coordination in the Pacific Northwest and Northern California. The plan is based on Option 9 of the Forest Ecosystem Management Assessment Team (FEMAT) report. The plan focuses on key watersheds and a comprehensive system of old growth reserves to protect old growth ecosystems. The President's Forest Plan will become the guiding management directive for management of all O & C lands.

The Western Oregon Resources Management Activity provides funding to four Subactivities on the O&C Lands: Forest Management; Reforestation and Forest Development;

Other Forest Resources; and Resource Management Planning. The Foundation's Assessment deals only with funding for the Wildlife and Fisheries related programs of the Other Forest Resources Management subactivity.

Oregon's Fish & Wildlife 2000 Plan. In 1990, BLM's Oregon State Office completed its Fish & Wildlife 2000 plan. This plan outlines its goals, objectives, and planned actions for managing all fish, wildlife, and special status species on BLM lands for the next decade. It is a comprehensive plan that incorporates earlier plans for specific resources such as the Five-Year Anadromous Fish Management Plan that was prepared in 1985. Implementation of Oregon's Fish & Wildlife 2000 is dependent on the agency receiving the funding level recommended in the FY 1996 President's Budget.

The Wildlife Habitat and Fisheries Management program in western Oregon is intended to maintain and improve wetland, riparian, aquatic, and terrestrial habitats for fish and wildlife species, including animal or plant species that are federally listed as threatened or endangered. Specific objectives are to:

- implement ecosystem management practices;
- improve anadromous fish habitat consistent with BLM's Fish and Wildlife 2000 plan and the report on "Anadromous Fish Habitat Management on Public Lands, A Strategy for the Future";
- comply with the Endangered Species Act (ESA) by implementing stipulations to avoid impacts on threatened, endangered or proposed plant and animal (T&E) species or their critical habitat, consult or conference with the U.S. Fish and Wildlife Service when there is a

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determination that an action may affect any T&E or proposed (if adversely affected) species or its critical habitat, and to aid in the recovery of T&E and proposed species;

- increase populations of threatened and endangered (T&E) plants, fish and wildlife on western Oregon Lands, and restore species and populations to historic ranges, consistent with BLM land use plans, in cooperation with Federal and State wildlife agencies;
- manage the habitat of special status plants and animals to maintain populations at a level which will avoid endangering the species and/or the need to list the species as threatened or endangered by either State or Federal Governments; and
- enhance conservation programs and habitat management of special status animal or plant species.
- implement Oregon's Fish and Wildlife 2000 plan and the Oregon/Washington Riparian Wetland Enhancement plan.

The program for managing wildlife, fisheries, and rare plant resources that has been outlined in Oregon's Fish & Wildlife 2000 is commendable and represents one of the more progressive visions of managing wildlife, fish, and special status plant resources in any federal resource management agency. Despite unprecedented workloads and limited funding relative to other agencies, BLM in Oregon continues to implement a number of actions each year.

Program Accomplishments

Vegetation was inventoried on 6,600 acres of the North Bank Habitat Management Area in Roseburg District. BLM cost \$22,000. Noxious weed control utilizing biological agents.

The Roseburg District has worked to survey bats in caves and abandoned mines as well as placed grates over mines where appropriate. See section titled "Bats: Masters of the Night Skies" for bat accomplishments and needs in Oregon.

Roseburg District: Completed third year of a density study of goshawks and inventory of amphibians.

Roseburg Amphibian and Reptile Inventory. The District cooperated with the National Biological Service and Oregon Dept. of Fish and Wildlife to survey upland and aquatic sites across the District for occurrence and relative abundance of amphibians and reptiles. A total of 186 terrestrial and aquatic sites were surveyed.

In the Klamath Resource Area, monitored 318 northern spotted owl sites of which 205 were occupied. Nesting was confirmed at 97 sites which fledged 124 young. Total cost for nesting site monitoring \$420,000. Marbled murrelet inventories were continued on 8,000 acres of suitable habitat and monitored two occupied sites. One nest was located and monitored through successful fledging.

Unfunded program needs

Wildlife

Coos Bay District: Coordinated ecological inventory of District lands. Currently, BLM is using an inventory base developed solely for timber resources. BLM needs to expand its district inventory to include all aspects of vegetation and habitats to be able to manage under an ecosystem approach.

Coos Bay District: Currently, BLM has little information on populations and status of these species groups within the District.

Funding is needed to monitor habitat use and maintain habitat quality in release areas for the Columbia White-tail Deer Recovery in Western Oregon. Projects include riparian enhancement, road management, fence removal and monitoring. Cooperators include the Oregon Department of Fish and Wildlife, the Fish and Wildlife Service, and Sportsmen groups.

Roseburg District: Northern Spotted Owl (NSO) monitoring must be done District-wide to maintain the Roseburg Demographic Study. Currently, the NSO population in the Roseburg District provides one of the oldest and largest samples of NSO occupation and nesting for evaluating long-term population trends. This study is conducted in cooperation with the Pacific Northwest Research Station of the Forest Service.

Implementation in 1996 of the North Bank Habitat Management Plan to benefit the Columbian White-tailed Deer, a federal and state endangered species, will involve riparian enhancement, road management, fence removal and providing full-time supervision of the property. The BLM acquired 6,600 acres to secure habitat for this species.

Salem District: In the Cascade Range, the District needs to perform habitat inventory and evaluation of Harlequin ducks and Neotropical birds in conjunction with the Oregon Dept. of Fish and Wildlife and OSU.

Eugene District: Special Status Wildlife Inventory/monitoring: Five species of Special Status Wildlife Species will be monitored in 3 watersheds, approximately 75,000 acres. (\$50,000)

Fisheries

Coos Bay District: Implementation of the Bring Back the Natives initiative. Projects within the Coquille River Watershed include riparian enhancement, riparian fencing, culvert replacement, road and slope stabilization, road renovation, instream habitat enhancement, and stream habitat and spawning surveys.

Coos Bay District: Aquatic and Riparian inventories: To be able to implement the President's Forest Plan, the District needs up to date aquatic and riparian inventories across our entire landbase and especially in key watersheds as outlined in the plan.

Salem District: Fish habitat enhancement projects and inventory of "at risk" salmon, steelhead and resident trout in the Nestucca, Alsea, and Clackamas River drainages. Work would be in collaboration with Oregon Department of Fish & Wildlife and "Jobs in the Woods" initiatives.

Eugene District: Sensitive fish species within the District Boundaries include steelhead, coho, chinook and searun cutthroat, all currently in status review; coho is expected to be proposed for listing. The Umpqua cutthroat, searun and resident, found in the District, are currently proposed for listing as an endangered species. Bull trout, are being reconsidered for listing. Funds would support inventories. Little is known of other fish species. Recent work confirms that fish communities in the Umpqua and Siuslaw are unique. Essentially nothing is known of their macroinvertebrate communities. Very little is known of these fish and inverte-

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brate communities, their condition, nor the impact of management activities.

Eugene District: Many habitat restoration projects are underway. None of the funding is allocated to inventory, monitoring, or evaluation of these projects and their impacts not only on anadromous salmonids, but other species as well. Funds would support evaluation of restoration projects.

Threatened and Endangered Species

Coos Bay District: The Western Snowy Plover, a threatened species, has declined dramatically in Oregon over the past four decades due primarily to encroachment of an exotic grass (European Beachgrass) into its habitat. Based on recent success on the Coos Bay North Spit, BLM feels it has an outstanding opportunity to begin turning around some of this habitat loss through treatment of areas to remove the beachgrass. This project would also include continuation of the population studies with protection from predators and human disturbances.

Coos Bay District: Marbled Murrelet Habitat Analysis. BLM currently has little information on the habitat needs of the threatened marbled murrelet. Both nesting habitat needs and off-shore foraging habitats are poorly defined.

Salem District: Monitoring and surveys are needed in the Northern Oregon Coast Range and the Northwest Oregon Cascades areas for the Marbled Murrelet and Northern spotted owl.

Eugene District: The President's Forest Plan calls for intensive inventories for several sensitive species associated with late-successional habitats. These "Survey and Manage" species will require extensive training and widespread inventories which are currently not funded.

Plants

Coos Bay District: Reestablishment of native vegetation at New River. New River, a Bureau designated Area of Critical Environmental Concern, contains several hundred acres of sand dune habitat which could be rehabilitated to reestablish native vegetation. Species which could be reestablished in

silvery phacelia and *pink sand verbena*. Reestablishment of the native plants would also improve conditions for the Snowy Plover, a threatened species.

Coos Bay District: Management of Western lily (endangered). Conservation of the existing population (2 plants) on public lands at New River along with possible reintroduction into other suitable habitat at New River would involve the Berry Botanic Garden, U.S. Fish and Wildlife Service, The Nature Conservancy and the Native Plant Society.

Salem District: In partnership with the Barry Botanic Gardens monitor populations of Task River Shooting Star and coast range fawn lily.

Eugene District: Inventory two watersheds for Eugene District Special Status Plant species at approximately 20,000 acres per watershed.

Eugene District: Six Federal Candidate and one Endangered Species Status plant species will be monitored at site specific locations.

Eugene District: Final plan development (Willamette Valley Conservation Strategy and Conservation Agreement to prevent listing) for one Federal Candidate plant.

Eugene District: Habitat enhancement including density management, prescribed burning, noxious weed control for three candidate plant species and one Endangered plant species on approximately 200 acres.

Eugene District: Continue research on *Lomatium bradshawii* (Bradshaw's lomatium, an endangered species) modelling prescribed burning frequency. Continue post treatment monitoring for species within Density Management Study sites.

Eugene District: Development of McGowan Prairie Wildflower Trail, Interpretive brochure, and Plants of Clay Creek Trail under the wildlife flowers program.

Special Topics

- "The Roots of Conservation"
Federal Native Plant Initiative
- Bats: "Masters of the Night Skies"

Introduction

When conservationists speak of restoring habitats to protect both common and uncommon species, in many cases, they are speaking of providing healthy, native plant life. Aquatic and terrestrial plants provide cover, food, nesting areas, and serve as the foundation upon which natural ecosystems are predicated. In many cases, it is in plant communities that we first witness ecosystem fragility. Clearly, if resource managers are to think ecologically and help restore ecosystems from the ground up, they must begin at the "roots" of conservation.

Plants are not important merely as the underpinnings of natural systems, but have demonstrable economic and societal benefits. A few examples follow:

- The Pacific Yew brought us Taxol, a compound used in the treatment of women suffering from ovarian and breast cancer;
- Periwinkle brought us a possible remedy for childhood leukemia;
- The Lake Placid Mint has recently exhibited potential for development as an anti-fungal agent, as well as an ant repellent.

Unfortunately, our nation's plant life on the whole is not healthy, as can be evidenced by the numbers of plants now categorized as threatened and endangered under the Endangered Species Act, or that are candidates to become listed. The statistics are compelling. According to the Center for Plant Conservation, more than 200 species of native plants have gone extinct since the early 1800's and nearly 5,000 species of native plants are "at risk" in the United States. Yet only 471 of these native plants are protected by the Endangered Species Act, and fewer than one-half of these have approved Recovery Plans. However, in many cases, plants are relatively inexpensive to protect and recover, unlike many of the wildlife and fish populations that depend upon healthy plant life. Plants by their very nature are not far-ranging creatures. Therefore, protection and restoration activities are often localized and easier to monitor. Compared to the potential and realized benefits from plants, the small price of protection and restoration is well worth paying.

Why a New Initiative Now?

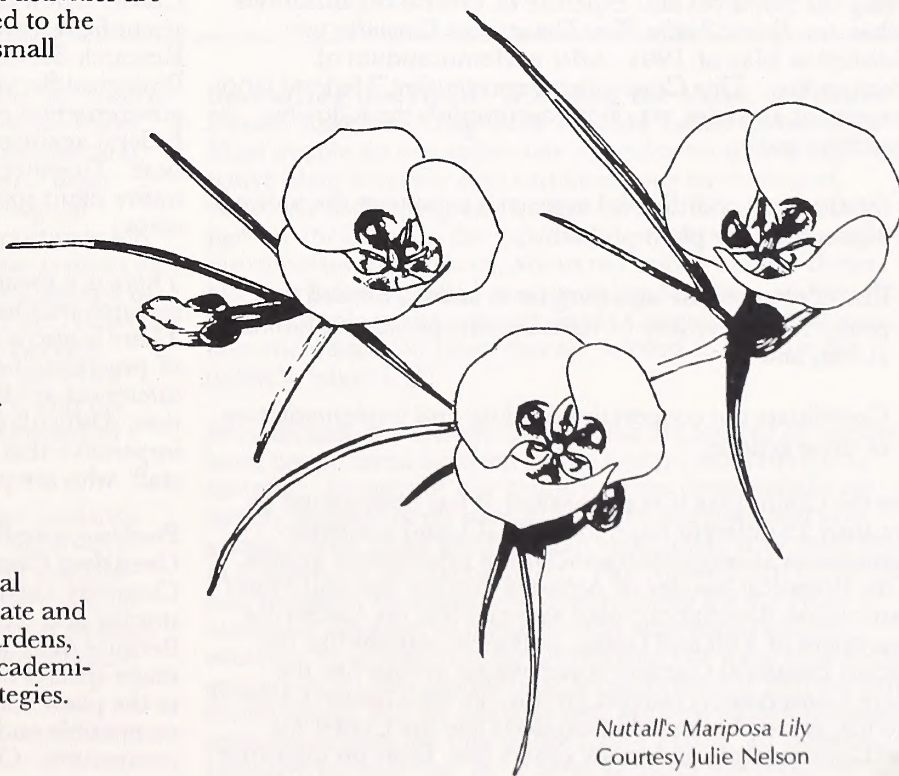
Collectively, the Bureau of Land Management, U.S. Fish and Wildlife Service, USDA Forest Service, and National Park Service manage over 500 million acres of public land in the United States. These public lands are a critical piece of the plant conservation puzzle, as they provide habitat for approximately 1/2 of all listed species and 1/4 of all known listed plant populations. Clearly, the commitment of these and other federal agencies to model exemplary plant conservation is critical to the success of native plant conservation across this country.

It is somewhat of a misnomer to label the Federal Plant Initiative as a "new initiative." Federal, state and local agencies, as well as numerous botanical gardens, conservation groups, private landowners, and academicians have long pursued plant conservation strategies.

However, these efforts have been fragmented, and generally have lacked focus and coordination. In addition, development of effective federal plant conservation programs has been constrained by the all-too-common obstacles of sparse funding and staffing. For example:

- In FY 1992, less than 5 percent of state and federal funds spent on listed or candidate species went to plants, even though more than 50 percent of the total number of listed or candidate species are plants.
- The Bureau of Land Management has responsibility to manage habitat for more than 800 listed or candidate plant species as compared to 500 listed or candidate animal species. Yet, the BLM has only 40 botanists, compared to 290 wildlife biologists and 60 fishery biologists. These meager staffing levels provide BLM with an average of 1 botanist for every 6.75 million acres — compared to 1 wildlife biologist for every 1 million acres. Consequently, fewer than 15 percent of the native plant species at risk on BLM-managed lands are being monitored.
- The U.S. Forest Service, though clearly ahead of the federal pack with 120 field botanists, has concentrated largely on the west coast, in the south, and in the Midwest. National Grasslands and National Forests in the mountainous west, from Montana to New Mexico, often lack staff with special expertise in plant conservation.

Conservation efforts are most effective when they are initiated before a species becomes endangered. Unfortunately, most native plant species are at critically-low population levels by the time they are listed under the Endangered Species Act. According to an Environmental Defense Fund study, for the 322 native plant species proposed or listed from 1985 through 1991, the average total population size at the time of federal listing was 120 individuals. In comparison, the average total



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population size for listed animals was approximately 1,000 individuals, an order of magnitude larger. Recovery options are severely limited for 39 listed native plants because, at the time of listing, there were 10 or fewer known individuals remaining in the wild. For many native plant species at risk, we lack necessary information on their distribution, abundance, population trends, and management and recovery needs. For example:

- Vast areas of the West have not had thorough botanical surveys.
- Less than 20 percent of the Bureau of Land Management's 270 million acres has been inventoried for plant species at risk.
- In California alone, more than 200 new native plant species have been discovered and described during the past 25 years.
- In Utah and Nevada, a total of 50 new native plants species were discovered and described during the past decade. Many of these species have tremendous potential as sources of commercially valuable germplasm to enhance closely related agricultural or medicinal species.

Conservation actions are needed now to protect the 1,035 candidate plant species that await federal listing. Approximately 238 of these species will be proposed for listing by 1996 unless threats to them are reduced. For the remaining 1,697 candidate plants, the federal government lacks sufficient information and resources to provide appropriate management or to proceed with listing. To protect this wealth of native flora, we must move quickly to gather information and develop effective plant conservation programs before these and additional native plant species become critically imperiled to the point of extinction.

The Native Plant Conservation Initiative

To improve the effectiveness of plant conservation efforts by bringing the resources and expertise of diverse organizations together, the *Federal Native Plant Conservation Committee* was established in May of 1994 under a Memorandum of Understanding. This Committee, representing 7 federal land management agencies, set out to accomplish the following overarching goals:

- Synthesize a coordinated approach to solving the nation's highest priority plant problems;
- Identify immediate and long-term actions needed to promote the recovery of native plant species and habitats at risk; and
- Coordinate the cooperative funding and implementation of these actions.

Since the Committee was established, it has been joined by more than 35 different state, local, NGO, and academic organizations as cooperators, including professional groups, like the Botanical Society of America and the Soil and Water Conservation Association; state agencies like the California Department of Fish and Game; botanical gardens like the Missouri Botanical Garden; conservation groups like the Nature Conservancy; interest groups like the Garden Clubs of America; special botanical institutions like the Center for Plant Conservation, and many others (see Table on following page).

In order to accomplish the goals stated above, the Initiative will focus its efforts on the following 4 major areas:

1. Conservation Actions, including protection, restoration, and coordinated resource use;
2. Research to provide a scientific base for plant conservation;
3. Coordinated information storage and retrieval; and
4. Public outreach/education.

Conservation Actions

The Native Plant Conservation Initiative is concerned with several major arenas of conservation action, including:

- Protecting nationally and regionally significant native plant habitat;
- Identifying and acting on extremely urgent plant conservation needs;
- Developing and carrying out management practices that ensure restoration of native plants in their natural habitats;
- Promoting coordinated and standardized approaches to classification, inventory, and assessment;
- Promoting aggressive management practices to prevent, control, and eradicate harmful, non-indigenous species;
- Developing and implementing guidelines and management techniques for collecting, propagating, and using native plants in ecological restorations;
- Using botanical gardens and arboreta for *ex situ* conservation of native plant species at extreme risk;
- Providing training opportunities for employees responsible for native plant conservation activities; and
- Encouraging use of wild native plants and plant products, and encouraging the use of native species in landscaping.

Grounding Plant Conservation in Science

Conservation action is most successful when based on sound scientific research. To this end, the USDA Agricultural Research Service, Forest Service Research, and the National Biological Service are working closely with universities, non-governmental organizations, and local, State, and other Federal agencies to provide a strong, scientific information base. Together they are exploring still unknown aspects of native plant species, their habitats, and ecological relationships.

There is a great need to get more scientists engaged in research that has practical application to land management. There is also a great need to maintain the educational levels of practicing field botanists so their methods, decisions, and inferences are based on the best available scientific information. Difficult decisions must be made every day, so it is imperative that our decision-makers have botanical support staff who are professional and scientifically-trained.

Pooling our Knowledge: Creating Compatible Databases

Currently, there are many disparate data systems for the storage and retrieval of plant conservation information. Because there are so many species of concern, and because so many species have unique characteristics, it is especially vital to the plant conservation movement that database systems be compatible and cooperative instead of over-lapping and competitive. Of particular importance to practicing plant

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MEMBERS AND COOPERATORS OF THE FEDERAL PLANT INITIATIVE



The Committee is currently comprised of the following eight agencies and representatives:

Bureau of Land Management
Department of Defense
National Biological Service
National Park Service
USDA Agricultural Research Service
USDA Forest Service
USDA Natural Resources Conservation Service (formerly SCS)
U.S. Fish and Wildlife Service

The following 29 organizations have formal Cooperator status with the Committee:

American Society of Landscape Architects
Berry Botanical Garden
Biota of North America Program
Botanical Society of America
California Department of Fish and Game
Center for Plant Conservation
Denver Botanic Gardens
Flora North America
Garden Club of America
Hawaii Releaf
Holden Arboretum
Missouri Botanical Garden
Montgomery County (MD) Department of Parks
National Association of Conservation Districts
National Fish and Wildlife Foundation
National Wildflower Research Center
Natural Areas Association
New England Wild Flower Society
North Carolina Arboretum



North Carolina Botanical Garden
Rancho Santa Ana Botanic Garden
San Antonio Botanical Gardens
Society for Ecological Restoration
Soil and Water Conservation Society
Texas Regional Institute for Environmental Studies
The Nature Conservancy
Virginia Native Plant Society
Winkler Botanical Preserve
Wintergreen Nature Foundation

The following Federal agencies have expressed interest in becoming members of the Committee:

Bureau of Mines
Bureau of Reclamation
Department of Energy
Department of Transportation
Environmental Protection Agency
Federal Aviation Administration
Federal Energy Regulatory Commission
Federal Highway Administration
Office of Surface Mining

The following organizations have expressed interest in becoming Cooperators:

American Society of Plant Taxonomists
Ecological Society of America
International Association of Fish and Wildlife Agencies
Maryland Native Plant Society
Montana Native Plant Society
National Museum of Natural History
National Parks and Conservation Association
Tennessee Wildflower Society
World Conservation Monitoring Centre



conservationists around the country is the network of Natural Heritage Inventory Programs, based primarily in the states. These programs provide a national, and now international, unified system for the storage of information about plant species of concern, including their locations, biological characteristics, and other aspects that are of importance for environmental review. Several other key database systems are also of considerable use, including the PLANTS database of the Natural Resource Conservation Service and the National Wetland Inventory of the U.S. Fish and Wildlife Service. Museums and other projects, such as the Center for Plant Conservation, the North American Biota Project, and the Flora of North America project also house vital botanical information.

In March of 1994, the Native Plant Conservation Initiative brought these key players in this arena together for a workshop in Phoenix, Arizona. Cooperative strategies to make systems compatible and non-overlapping are evolving from this discussion and form a key aspect of the national strategy being developed by the Federal Native Plant Conservation committee.

Spreading the Word: Teaching the Value of Native Plants and Working with Private Land Owners

Most people do not appreciate or understand how important native plant diversity is to sustaining our environment, economic well-being, and quality of life. This can in large part be attributed to the fact that many people have not had the opportunities to learn about our native plants. Botany has long been regarded as a specialized subject, and taught very seldomly at the primary level. Consequently, information and education programs are needed to increase the public's "plant I.Q."

Because half of federally-listed plants are located on private land, cooperation between public and private interests is essential. In parts of our country where communities are largely dependent on natural resource activities and programs, native plant products and ecotourism may assist them in diversifying their economies. The Native Plant Conservation Initiative envisions new opportunities for the Federal assistance agencies to broaden their education/outreach activities by seeking out the participation of local educational, conservation, and professional organizations in native plant conservation, and by working with nursery, pharmaceutical, and other industries that utilize native plants. In addition, the Initiative foresees that the federal agencies will continue with

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Variety in Bloom : Celebrating Wildflowers

The national forests, national parks, national wildlife refuges, grasslands, and millions of acres of public lands are truly America's wildflower gardens. *Celebrating Wildflowers*, a collaborative effort among the Forest Service, Bureau of Land Management, US Fish and Wildlife Service, and the National Park Service, promotes the importance of conserving and managing our native plants and plant habitats and emphasizes the aesthetic, recreational, biological, medicinal, and economic values of wildflowers. During its three years of existence, *Celebrating Wildflowers* has served over 100,000 people in a wide array of educational, interpretation, entertainment, and restoration activities. National Wildflower Week, May 22-28, is an annual event providing a focal point for native plant activities. Throughout the year many programs feature the important role that the Nation's public lands - over 630 million acres - play in providing diverse habitats for much of America's flora.

current efforts and expand activities that have been particularly well-received by the public. Following is a sampling of the federal agencies' public outreach activities:

USDA's Natural Resources Conservation Service (formerly known as the Soil Conservation Service) is an ideal vehicle for reaching out to the residents of rural areas. The Service works directly with private landowners to provide technical assistance in the preparation of natural resource management plans for watershed restoration, reforestation, and soil erosion control. Additionally, the Service's Plant Material Centers propagate plant materials for distribution to governmental agencies and private landowners for various revegetation and erosion control projects.

Cooperative Extension Service, a partnership between the U.S. Department of Agriculture and the State land-grant universities, provides valuable programs and services in a variety of extension areas such as home economics, continuing education, conservation information assistance, and youth programs such as 4 H.

Forest Service's State and Private Forestry works in partnership with the Nation's State foresters to provide forest resource management assistance. State and Private Forestry plays a key role in the identification and management of insects and diseases of natural plant communities. In recent years, State and Private forestry has worked to diversify rural economic development, especially in providing assistance to communities that are, or were, largely dependent upon declining federal timber programs.

Agricultural Research Service is responsible for the operation of the U.S. National Arboretum in the Nation's capital. Each year over 200,000 people visit the National Arboretum. Many of the Arboretum's educational programs introduce the public to native plant conservation issues for the first time. The annual Native Plant Symposium discusses various opportunities to use native plants in gardens and landscaping. Experts are on hand to discuss the benefits of using native plants, such as acclimation to local environmental conditions, disease resistance to native pathogens, and low maintenance requirements. Funds generated by this symposium are used to offer a summer internship to an aspiring botanically-minded student in the native plant garden.

The *Bureau of Land Management, Fish and Wildlife Service, Forest Service, and National Park Service* actively provide opportunities for people to enjoy, understand, and value native plants.

Employees of these agencies give educational talks on native plant conservation issues to civic groups, environmental organizations, and school groups; provide educational materials to schools for incorporation into primary, secondary, and adult education curricula; and sponsor volunteer participation in hands-on native plant conservation Challenge Cost-share Agreement funding, such as Garden Club of America's Partner's for Plants program.

On-the-Ground Action: FY 1994 Plant Conservation Accomplishments

There are a wide array of ongoing and exciting new projects which reflect the spirit of cooperative, grassroot action embodied by this movement. During the past 13 months, this new initiative, under the leadership of the Federal Native Plant Conservation Committee, has spawned a number of projects and has developed a draft national strategy for assisting grassroot and regional conservation action. Spending to date that has been specifically focused on plants has been about \$529,000 in Federal spending, and at least \$55,000 in non-Federal spending. Most activity takes place at the field level. A sampling of projects initiated under the Initiative follows.

Lead Agency: Bureau of Land Management

Discoveries in Utah: Ute's Ladies Tresses Aren't Gone With the Wind
BLM and the Utah Natural Heritage Program located a site of Ute's ladies tresses near Callao, Utah, that was thought to have been extirpated. The site is on private land, and a search for other populations continues on adjacent BLM lands. In addition, genetic studies provided the knowledge needed to revise the taxonomy of Maguire's daisy and reclassify two species as a single species. As a result, the U.S. Fish and Wildlife downlisted the species from endangered to threatened. Similarly, inventories of 13,000 acres in the Salt Lake District, produced new discoveries of the plant *Astragalus lentiginosus* var. *pohlii*. As a result, federal listing for the plant is no longer recommended.

Weeding out Noxious Weeds: Eradication of Exotics in California
As in many areas, especially those having substantial levels of human, animal, or natural disturbance, harmful exotic plant invasions are often the greatest threat to our native flora. These outbreaks of exotics often lead to greatly reduced habitat quality for wildlife and livestock. The exotics may also may be less resilient or resistant to large-scale or unusual habitat disturbances. In the Arcata Resource Area, California, the Bureau of Land Management is cooperating with The Nature Conservancy to eradicate invasive non-indigenous plants in the Samoa and Manila Dunes of Humboldt county and to restore habitat of the critically imperiled native plant species *Menzies wallflower* (*Erysium menziesii*) and beach layia (*Layia carnosa*).

Lead Agency: U.S. Fish and Wildlife Service

*Cooperating at the County Level:
Florida Pine Rocklands Rare Plants Restoration Project.*
The U.S. Fish and Wildlife Service's Ecological Services Office is working cooperatively with Dade County, Florida to protect, restore, and mitigate rare pine rockland rare plants and their native habitats. A \$90 million Dade County bond issue approved by voters in 1990 is being used to purchase the best remaining environmentally-endangered lands that remain in private ownership, including pine rocklands and tropical hardwood forests. One purchase site could serve as a buffer between a proposed mass transit terminal and an

adjoining residential neighborhood. The County, using Fish and Wildlife Service recovery funds, is mapping populations of the endangered plants. Additionally, it has developed a comprehensive management plan for the most important remaining pine rocklands at a former naval air station at Richmond Heights. The plan provided information needed by fire crews, featuring maps of endangered plant populations, vegetation, fuel conditions, roads, buildings, fences, and gates. Fish and Wildlife Service funding supported the Richmond management plan and accelerated control of non-indigenous, invasive species threatening the native plant communities.

Lead Agency: Forest Service

Sharing Expertise: Rare Ferns Workshop on the Ottawa National Forest
On April 28 and 29, 1994 the Ottawa National Forest hosted a moonwort (*Botrychium*) Identification Workshop. Several candidate and sensitive species of moonworts occur throughout the forests of the Upper Great Lakes States but they are extremely difficult to identify. The course was taught by Dr. Warren H. Wagner, from the University of Michigan, who is the world-renowned authority on this group of ferns and author of the taxonomic treatment of the genus *Botrychium* in the Flora of North America.

A variety of resource staff specialists, including soil scientists, wildlife biologists, botanists and plant ecologists, participated in this workshop. The thirty-three participants, included representatives from State Natural Heritage programs in Minnesota and Wisconsin, University of Wisconsin, U.S. Fish

and Wildlife Service and Forest Service personnel from the Chequamegon, Nicolet, Chippewa, Hiawatha and Ottawa National Forests. Attendees gained valuable training in the identification and field ecology of these rare native plants.

Utilizing the Information Highway:

Local use of Natural Heritage program data in the Forest Service

The Northern Region of the Forest Service has implemented a highly successful electronic transfer of rare and imperiled plant species data from three state Natural Heritage inventory Programs (Montana, Idaho, North Dakota) to the USFS computer system. This data linkage has allowed botanists on all National Forests and Ranger Districts in the Region to have ready access to threatened, endangered and sensitive plant species occurrence data, with a multi-state/regional perspective. This not only provides ready information about known occurrences of species of concern, but in addition allows managers to assess the relative conservation value and importance of individual sites in the context of a regional perspective. The data includes information from a large variety of sources just as it is stored and managed in a comprehensive fashion by the state Natural Heritage Inventory programs.

Lead Agency: USDA Agricultural Research Service

Storing up for the Future: Collecting Seeds of Endangered Plants

Through a partnership with 25 Center for Plant Conservation botanical gardens and arboreta, the Agricultural Research Service's National Seed Storage Laboratory in Ft. Collins, Colorado is storing seeds of over 400 species of

New Discoveries and Conservation Cooperation Avert the ESA: the Case of the Arizona Willow

The Arizona willow (*Salix arizonica*) is a rare riparian shrub that until recently was known only from a tiny area in Arizona. In 1992 the Fish and Wildlife Service published an initial rule in the Federal Register that proposed listing the Arizona willow as endangered and designating critical habitat on the Apache-Sitgreaves National Forest and Fort Apache Indian Reservation in Arizona.

Simultaneously, Dr. Robert Thorn, was examining willow specimens from the Forest Service Rocky Mountain National Herbarium. Dr. Thorn determined that a specimen collected on the historic Sevier National Forest in Utah, in 1913, had been misidentified all these years and was actually an Arizona willow. Dr. Thorn then sent this information to Dr. Duane Atwood, regional botanist for the U.S. Forest Service - Intermountain Region. Based upon habitat information from the Arizona populations, Dr. Atwood and colleagues discovered 17 new populations of Arizona willow in Utah on the Dixie and Fishlake National Forests, and 3 additional populations on the Cedar Breaks National Monument. One of the populations on the Dixie National Forest contained more individual plants than the total number of Arizona willows previously known to exist anywhere on Earth.

The next step was to share this information with US Fish and Wildlife Service staff, who subsequently put their final decision as to whether or not to list Arizona willow on hold pending further field studies and interagency prelisting discussions.

Agreement in principle has been just been reached on an Interagency Conservation Agreement between the US Fish and Wildlife Service, the National Park Service, and the Forest Service. This agreement will provide management that maintains the species at healthy levels and thus replaces the need for federal Endangered Species Act protection. Enhanced management is already being achieved on the National Forests. Research Natural Area designation is also possible for one of the Utah populations. Additionally, Forest Service personnel are working with adjacent private landowners to secure conservation easements to protect Arizona willow populations that extend onto private land from adjacent Forest Service lands. This Conservation Agreement may preclude the need to list Arizona willow and will serve as a prototype for the Conservation Agreement effort identified in the Federal Imperiled Species Memorandum of Understanding signed by 5 major agencies in 1994.

This is more than just a success story for the Arizona willow, but a success story for the local landowners, an Indian Tribe, and business interests who avoided conflicts with the Endangered Species Act. Protection of this willow plays a key role in maintaining the healthy Southwestern riparian plant communities that are vital to a myriad of fish and wildlife species, and to sustaining a productive ecosystem with other direct uses.

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endangered native plants to safeguard germplasm for future recovery efforts. Most of these native plants are unique to the National Seed Storage Laboratory traditional holdings, and many require concurrent research to determine optimal storage techniques. This partnership with the Center for Plant Conservation is an integral component of the National Collection of Endangered Plants.

Lead Agency: National Park Service

Volunteer Gardeners: Expedition Into America Partnership

The National Park Service and Garden Club of America have entered into a partnership to create the *Expedition Into America* program. This partnership has cooperatively funded several native plant conservation projects in the national parks. In the Big Thicket National Preserve, Garden Club of America volunteers worked with Mercer Arboretum and Park personnel to reintroduce the Federally endangered native plant, Texas piney-woods phlox (*Phlox nivalis texensis*). Additionally, Garden Club of America volunteers assisted with field surveys for federally listed and candidate plants at the Presidio in San Francisco and Redwood National Park in California.

Lead Agency: National Biological Service

Working with Private Landowners:

The East Maui Dry Upland Forest Project

Under a partnership agreement between the National Biological Service, National Park Service, State of Hawaii, and a private landowner, a dry upland forest restoration management plan was carried out on private lands. Six Federally-endangered plants and five candidate species in the area were threatened by cattle, goats, and noxious weeds. This project is attempting to stabilize their populations, negate the need for listing the candidate species, and provide valuable ecological restoration techniques for other dry upland forest areas in Hawaii.

FY 1996 PROJECT OPPORTUNITIES

There are tremendous opportunities and needs for native plant conservation projects during FY1996. Funding for many efforts exist within a myriad of different budget line items — each agency has a quite different approach. The new Native Plant Conservation Initiative seeks to utilize all available resources to the greatest extent possible and to get more bang for the buck by coordinating both priorities and actions among the various federal agencies with state and other partners. Some sample projects follow:

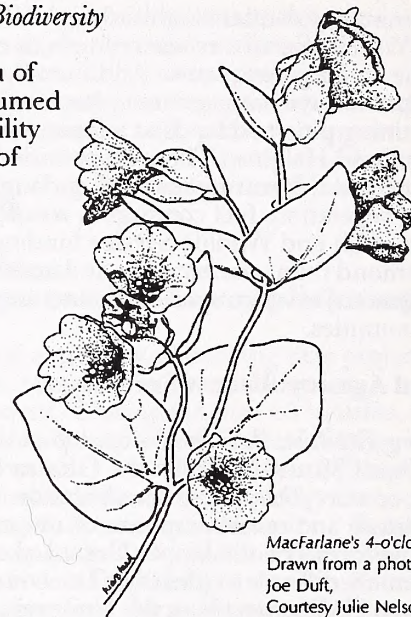
Lead Agency: Bureau of Land Management

Arkansas: Sensitive Species Survey of Bottomland Hardwood Forests (\$6,000)

In the mid 1970's, the Fish and Wildlife Service identified bottomland hardwood forests as one of the most critically imperiled ecosystems in the United States due to land use conversions. With few high-quality remnant stands of bottomland hardwoods remaining in Arkansas, the Bureau of Land Management believes that this tract of forest may be of very high value to "at risk" native plant species in the state. Funding of this project will gather valuable information about the occurrence and possible protection needs of this unique and rapidly-disappearing forest type.

California: Fort Ord Biodiversity Management (\$500,000)

In FY 1994, the Bureau of Land Management assumed management responsibility for about 10,000 acres of land at Fort Ord in Monterey County, California. These public lands support the best remaining examples of maritime chaparral habitat in the world and contains globally significant rare dune habitats, vernal pool wetlands, and native grasslands. Scattered throughout these habitat areas are numerous populations of rare native plant species, including four Federally listed or proposed plant species, seven Federal candidate plant species, and 11 additional sensitive plant species. Annual funding would support monitoring and inventories of these "at risk" native plants and their ecosystems. The goal will be to produce a coordinated resource management plan for the entire ecosystem, in cooperation with other Federal, State, and local agencies and organizations.



MacFarlane's 4-o'clock -
Drawn from a photo by
Joe Duft,
Courtesy Julie Nelson

Arizona: Riparian Vegetation Restoration Along the Colorado River (\$50,000)

During the past 50 years, the increasing demand for water and electricity to develop the southwest has led to the construction of numerous dams along the Lower Colorado River. As a result, spring flooding that historically occurred along the Lower Colorado River is no longer an ecological factor. Spring flooding was an integral component for the natural re-generation of cottonwood and willow native plant species. Now the native Cottonwood/Willow/Mesquite riparian eco-system has become imperiled, endangering several species that require this riparian habitat. The Bureau of Land Management proposes a Cottonwood/Willow/Mesquite restoration project along the Lower Colorado River within the Yuma Resource District. Restoration activities would include planting native woody riparian species and seeding other native herbaceous plant species.

Lead Agency: U.S. Forest Service

California: El Dorado National Forest - Traverse Creek Botanical Special Interest Area Public Education/Outreach and Noxious Weed Management Project (\$22,000)

The El Dorado National Forest proposes to carry out two related projects at the Traverse Creek Botanical Special Interest Area: (a) construction of interpretive trails and (b) control of the invasive non-indigenous shrub, Scotch Broom (*Cytisus scoparius*). The projects would benefit and enhance the habitat of the sensitive plant, Layne's ragwort (*Senecio layneae*) by removing Scotch Broom from approximately 25 acres and constructing an interpretive trail that would control pedestrian traffic and educate the public about the rare native plants and native riparian woodland, chaparral, and unusual serpentine wet meadow. A volunteer group from Recreation Equipment Inc. (REI) has agreed to provide up to 40 volunteers in 1995 to help remove Scotch Broom. Two miles of the proposed interpretive trail would be ADA accessible.

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California: *Six Rivers National Forest - North Fork Smith Botanical Area Restoration/ Public Education/ Interpretation Project* (\$39,600)
Numerous rare and endemic plant species, as well as distinct native plant communities, are associated with serpentine environments. Raising awareness of these imperiled serpentine habitats and actively restoring degraded areas have implications on a regional scale. Given the distinctive vegetation and numbers or "at risk" native plants of serpentine ecosystems, surprisingly little attention is given to these ecosystems. This proposed suite of projects would inventory rare plant occurrences, sites in need of restoration, and sites appropriate for public interpretation and place barricades in strategic locations to prevent further illegal off-highway vehicle use. Additionally, seeds of rare native plants would be collected and propagated for future reintroduction into restored habitats. Educational materials would be written for use with various public outreach programs.

Washington: *Gifford Pinchot National Forest - Partners For Plants Project - Berry Botanic Garden* (\$20,000)
Basic inventories are central to rare plant management and conservation. However, little funding exists to conduct field inventories other than for programmed project support work. The Gifford Pinchot National Forest has relied on partnerships to help in these efforts. To date, 55 individuals have volunteered over 2,000 hours in inventory and monitoring of rare plants. The proposed project between the Berry Botanic Garden and Gifford Pinchot National Forest would expand the Partners For Plants Project to universities within the greater Portland area. Universities such as Portland State University would offer college credit for Partners For Plants and volunteer students would assist with rare plant inventory and monitoring. Inviting students to participate would have the added benefit spreading the word about graduate research opportunities on the national forest. This project would greatly enhance cooperation between academic and land management agencies, leading to better science in management, and more relevance to natural resources education.

Lead Agency: USDA Agricultural Research Service

Eastern U.S.: *Continuation of Genetic Research for the Silverbell Tree* (\$20,000)
Researchers from the Agricultural Research Service are currently conducting genetic work on the Silverbell tree (*Halesia carolina*), a native to the deciduous forests of the eastern United States. With few pest and disease problems, the tree is recognized for its importance as a potentially valuable landscape plant. Funding would allow for continued seed collection and propagation as well as propagation and outplanting trials at four sites throughout the Silverbell's range. These tests would serve as seed orchards for the nursery and forestry industry, provide parental material for breeders and other researchers, and function as an *ex situ* conservation collection for this native plant. In addition, this project would serve to identify the extent and type of genetic diversity present within the species.

Mid-Atlantic States: *Agricultural Research Service/U.S.D.A. Forest Service American Cranberry Study* (\$25,000)
Cranberries are just one of many native plant species with significant economic value. A project is being developed between the Agricultural Research Service and Forest Service to evaluate and designate cranberry populations on U.S. Forest Service administered lands as *in situ* germplasm repositories. This project would serve as a model for gene conservation of wild relatives of native plant species of medicinal, spice, industrial, agricultural, and ornamental importance. Funding would provide for field data collections and vegetation analysis of native cranberry habitats and needed genetic analyses.

Lead Agency: National Park Service

Hawaii: *Exotic Insect Pest Management Program to Save the Federally Listed Haleakala Silversword* (\$200,000)
Argentine ants, a non-indigenous insect, were first recorded in Haleakala National Park in 1967. Recent information now strongly suggests that the ants are negatively affecting pollinators of several Federally-listed plants, including the Haleakala Silversword and its close relative *Dubautia*. The National Park Service needs funding to devise and implement an integrated pest management plan to control this non-indigenous insect. Without this action, the beautiful silversword may become a "standing dead" species, unable to reproduce and doomed to extinction once the remaining individuals die of old age.

New Mexico: Sensitive Species Inventory (\$40,000)

The Jemez Mountains of north-central New Mexico contain a myriad of native plants and rare natural plant communities. Botanical surveys of this area however have been spotty and precious inventory data is scarce. The National Park Service is proposing a partnership to survey this area, including portions of Bandelier National Monument, Santa Fe National Forest, Bureau of Land Management lands, Native American Pueblo lands, and the privately-owned Valle Grande National Natural Landmark. This proposed project calls for a systematic survey and inventory of the Jemez Mountains for rare and sensitive plants in unique riparian habitats.

Maine: Rare Native Plant Management and Research at Acadia National Park (\$235,000)

The National Park Service is proposing to conduct rare native plant management activities in Acadia National Park. Purple loosestrife, an invasive non-indigenous plant species, is destroying native wetland plant communities and putting rare native wetland plant species at risk. Funding would allow park personnel to control purple loosestrife. Research is needed to learn the history of native plant communities in Acadia National Park and to determine the effects of fire on native vegetation. Results of this study would provide land managers with the information necessary to restore native fire-dependent ecosystems.

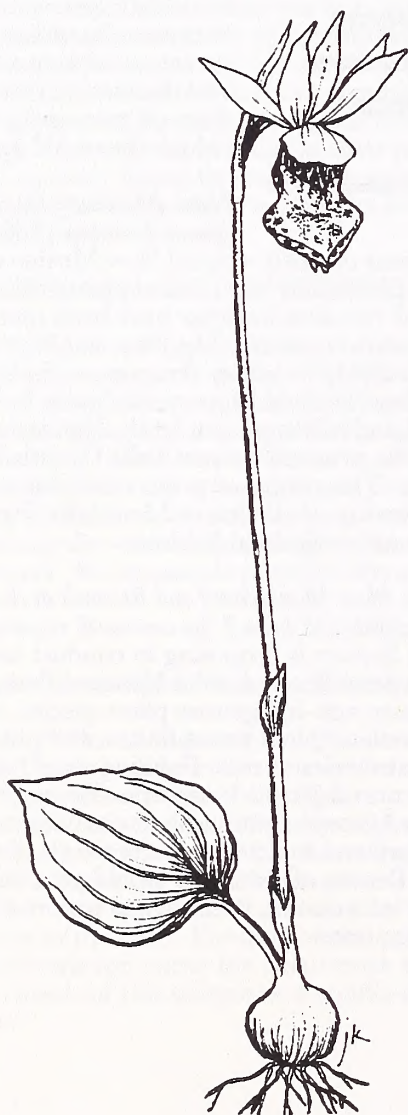
"In FY 1992, less than 5 percent of state and federal funds spent on listed or candidate species went to plants, even though more than 50 percent of the total number of listed or candidate species are plants."

FEDERAL NATIVE PLANT CONSERVATION INITIATIVE

Nationwide: BLM, FWS, FS, and NPS and Native American Nations (\$700,000)

One hundred thousand acres of Native American lands are habitat to many scientifically and culturally valuable native plants and their associated ecosystems. Many native plant species play a culturally important role to Native Americans, for food, traditional medicines, and other economic products. For example, in Montana, Native Americans use native sweetgrass, an increasingly rare plant, for basket making. The local economies of these indigenous people depend on the availability of this native plant. To protect and manage this economically important native plant, a community-based, locally-developed conservation strategy is necessary.

Unfortunately, there is virtually no funding going into native plant conservation efforts on Native American lands. The relatively small sum of \$700,000 would provide for development of local, community-based strategies for plant conservation on Native American lands. This would also aid plant product management and rare species management for species used by Native Americans that occur on the national public lands across this country.



Calypso Orchid,
Courtesy Julie Nelson

NFWF Recommendations

The Foundation commends the work of the Native Plant Initiative in its first year, and foresees that its role in providing a framework for national native plant conservation efforts will continue and expand within the coming years.

In compiling this report, the Foundation noted that money specifically mandated for plant conservation is difficult to ferret out of the agencies' complex budget structures. In the Fish and Wildlife Service alone, funding for plants is derived from 14 different budget line items. Part of the utility of the Native Plant Conservation Initiative will be a matter of simple accounting - attributing each plant conservation accomplishment to a specific funding source. Until such time that flora commands the same attention as fauna in the agencies' budget structures as well as missions, funding will be difficult to come by.

Bureau of Land Management (+ \$2 million)

Subactivity: Threatened and Endangered Species

The Bureau manages habitat for more than 800 listed or candidate plant species. Despite this significant acreage and management responsibility, BLM has a total of only 40 botanists, averaging 1 botanist for every 6.75 million acres. Consequently, fewer than 15 percent of the native plant species at risk on BLM-managed lands are being monitored. The Foundation commends BLM on its work in Special Status Plants and joint efforts with the Federal Native Plant Initiative. However, significant progress in the arena of native plants will not be made without the commitment of trained botanists. The Foundation recommends that BLM follow the example set by the Forest Service and increase its cadre of FTE's trained in botany. Without this expertise, many important activities such as monitoring, inventories, and the development of recovery plans cannot take place.

The Foundation also recommends an increase of \$2 million to the FY 1996 President's Budget for threatened, endangered, and sensitive plant recovery and protection efforts. This increase would allow the Bureau to make additional progress on accomplishing the following: 1) complete inventories on 143 million acres to determine location, abundance, and threats to sensitive plant populations; 2) complete nearly 460 studies on specific plant populations to define biological and ecological needs and to develop actions that will be required to recover species to stable population levels; 3) initiate 250 projects for plant species protection; 4) expand monitoring of known populations; and 5) implement environmental education and awareness programs that will aid in the protection and recovery of species that are especially vulnerable to human activities.

BATS: MASTERS OF THE NIGHT SKIES

Introduction

Bats elicit responses in people that range from uneasiness to fascination. The more we learn about bats, the more we also tend to learn about how ecosystems function, and how many of our most sensitive ecosystems are reliant on bats for survival.

In FY 1995, the Bureau of Land Management, the USDA Forest Service, and Bat Conservation International (BCI) joined forces to initiate "Bats: Masters of the Night Skies" in order to conserve bats, their habitats, and the ecosystems upon which they depend. These agencies were joined on February 22, 1995 by representatives from the USDA Natural Resources Conservation Service and the National Park Service at a press conference to officially launch this initiative, to recognize the national importance of bats, and to reverse the current alarming trend of declining bat populations.

Why do bats need our help?

Bats are in serious decline nearly everywhere. Worldwide, there are almost a thousand different kinds of bats which comprise nearly 1/4 of all mammal species. Of the 43 species living in the U.S. and Canada, nearly 40 percent are endangered or are candidates for such status. On BLM lands, over 60 percent of the bat species -- 19 of 32 species -- are now either candidate or endangered species, placing bats in the unenviable position of being the largest and most endangered mammalian group on BLM lands.

What can we do?

The biology and ecology of bats is not well understood. Their nocturnal behavior, inaccessible breeding and roosting sites and migratory behavior have made them difficult to study. As a result, we know little of bat ecology or management needs on public lands.

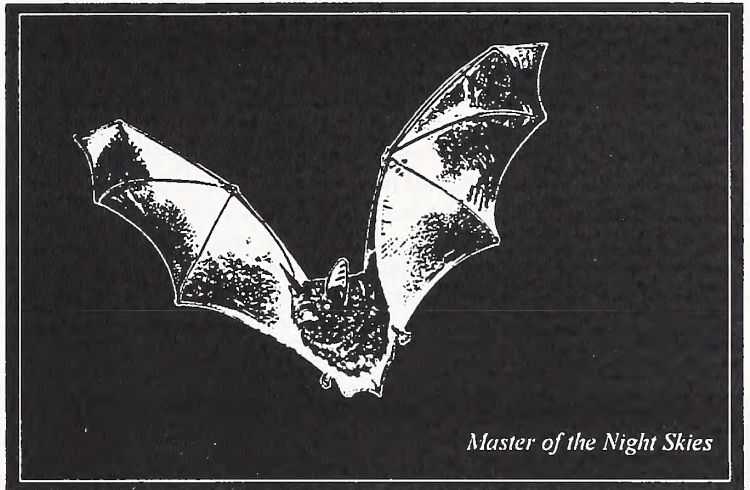
Despite a lack of knowledge, we do know that bats often use trees, cliffs, caves, human dwellings, natural waters and water developments, bridges and mine shafts in a variety of habitats on BLM-administered lands. There are clearly opportunities to begin specific management actions to protect or enhance this diverse and threatened group of mammals.

Among Federal agencies, BLM has taken a particularly proactive approach towards the development of bat conservation measures on Federal lands. Much has already been accomplished on the ground, and efforts are expanding. BLM's direct expenditures on bat conservation efforts in Fiscal Year 1994 were approximately \$250,000.

In FY 1996, BLM intends to continue to survey and protect abandoned mines, where appropriate. In cooperation with Bat Conservation International, the Bureau will work with volunteers and others to make the goal of bat conservation a reality.

Protecting Bat Habitats: A "Grate" Idea

One method that the BLM is using to protect critical bat habitats is the installation of iron grates over abandoned mine entrances. These gates serve two primary purposes: they protect the public from stumbling into a mine that might be dangerous; and they provide habitat as well as allow passage for bats. In the past, abandoned mines have been left alone or were filled in with earth, often a costly proposition. Maintaining the mine for bats provides a win-win situation that is both simple and cost-effective. The BLM has made a three year, \$150,000 total commitment, to work with BCI, the National Fish and Wildlife Foundation, and other contributors to the "Bats and Mines Project."



Master of the Night Skies

The Importance of Abandoned Mines to Bats

Abandoned mines have become key year-round resources for bats. Mines seem to be most important for rearing young in summer, for hibernating in winter, and for use as temporary rest stops during migration. Throughout the United States, human disturbance of caves, cave commercialization, deforestation, and urban and agricultural development have forced many bats from their traditional roosts in search of new homes. Old mines are often the only suitable temperature-controlled shelters left midway between a bat's summer and winter roosts; without these protected resting places, many species' migratory mortality could greatly increase.

Over the past 100 years or more, displaced bats have gradually moved into abandoned mines, which often provide microclimates similar to caves. Indeed, of the more than 6,000 mines surveyed by researchers in Arizona, California, Colorado, and New Mexico, 30 percent to 70 percent in each state showed signs of use by bats, with an average of 10 percent containing important colonies. From the Great Lakes Region eastward in the U.S., up to 70 percent of subsurface mines may be used by large bat populations.

In December, 1992, an estimated 1 million little and big brown bats were found in the Millie Hill Mine in Iron Mountain, Michigan. The mine was slated for closure the following spring. These bats that were fortunate enough to be rescued constitute the second largest hibernating bat population ever discovered in North America. In Wisconsin, more than 600,000 bats of four species were saved simply because two mines were surveyed and protected from closure.

Bats, due to their colonial nature, are especially vulnerable during hibernation both to vandals, and to rapid mine closures. The largest recorded hibernating population of western big-eared bats was recently destroyed in a New Mexico mine shaft where vandals set old timber on fire. In New Jersey, the state's largest population of hibernating bats was inadvertently trapped in the Hibernia Mine when it was capped. Had state biologists not convinced state authorities to reopen the entrance immediately, these bats would have perished. Likewise, the Canoe Creek State Park limestone mine in Pennsylvania was reopened in the nick of time to save its bats and now shelters the largest bat hibernating population in the state.

Clearly, the difference that maintaining just one mine shaft can make is staggering.

BATS: MASTERS OF THE NIGHT SKIES

Bat Conservation International's Efforts

This initiative, "Bats: Masters of the Night Skies," is the culmination of years of effort by Bat Conservation International (BCI) to protect bat populations, educate the public about the many benefits of bats, and conduct research on bat populations to expand the world's understanding of these flying mammals. BCI, based in Austin, Texas, was founded in 1982 largely through the inspiration of Dr. Merlin Tuttle, an internationally acclaimed authority on bats. The organization has achieved unprecedented progress by emphasizing sustainable uses of natural resources in a manner that

benefits both bats and people. This organization has, in cooperation with wildlife enthusiasts nationwide, literally protected and re-established millions of bats.

In cooperation with the National Fish and Wildlife Foundation and others, BCI is increasing its efforts to form partnerships with industry and the private sector to share program benefits and costs. BCI is currently developing a Home Page on the World Wide Web to ensure an interactive forum of bat information dissemination and collection over the Internet.

Why are bats so important?

Bats are primary predators of vast numbers of insect pests that cost farmers and foresters billions of dollars annually. Bats also pollinate flowers and disperse the seeds that make the rain forests grow and the deserts bloom. Wherever bats are found, they are critical elements in nature's delicate web of life.

Expanding our understanding of bats has uncovered many of the benefits that were heretofore unknown, and certainly underappreciated. Examples of both realized and potential benefits follow:

Benefits to Agriculture

- 1) A colony of just 150 big brown bats can eat enough adult cucumber beetles in a summer to prevent the beetles from producing 18 million larvae. These larvae are the scourge of thousands of farmers across the country each year.
- 2) Tequila is produced from agave plants whose seed production drops to 1/3,000th of normal without pollination by bats.

Benefits to Local Economies

- 1) Thousands of Mexican free-tailed bats migrate to Austin, Texas each spring to rear their young in crevices beneath the Congress Avenue Bridge. By August, more than 1.5 million bats emerge each evening in colonies that can be seen for miles and that attract thousands of wildlife enthusiasts and tourists. Local restaurants and bed and breakfasts have benefitted greatly during this annual event.
- 2) Bats are critical to naturally ridding areas of mosquitoes and other insects. During the height of the annual migration in Austin, each night the area is purged of an estimated 15,000 to 30,000 pounds of insects by Mexican free-tail bats. In other areas, a single little brown bat can catch 600 mosquitoes in just one hour. Not only does this make the human population less itchy, but it saves money that would be spent on chemical pesticides in the absence of bats.

Benefits to Medicine

- 1) Pallid bats are immune to stings of scorpions and centipedes on which they feed. Studying these bats might provide insight to antidotes, or even inoculations against poisons.
- 2) Vampire bats have in their saliva an anti-coagulant that allows them to extract blood from small animals undetected. Development and use of such an anti-coagulant for physicians would support human surgical procedures that must be performed in absence of clotting.

Benefits to National Security

- 1) The complex sound-sensing mechanisms used by bats are so sensitive that bats can hear the footsteps of walking insects. Such a system could provide insight into methods to fine-tune security systems, for example.
- 2) The echolocation powers of some bats are so fine that they can detect objects as microscopic as a human hair. The bat's natural sonar is far more precise than anything that has been developed electronically.
- 3) Bats have extremely well developed navigational and tracking systems. For example, mother Mexican free-tailed bats can find and nurse their own young, even in huge colonies where many millions of babies cluster at up to 500 per square foot.

Benefits to Fragile Ecosystems

- 1) Nectar feeding bats are primary pollinators of giant cacti, including the famous organ pipe and saguaro cacti of Arizona.
- 2) In the wild, important agricultural plants such as bananas, breadfruit, mangoes, cashews, dates, and figs rely on bats for pollination and seed dispersal.

Other Commercial Benefits

- 1) Bat droppings in caves support entire ecosystems of unique organisms, including bacteria useful in detoxifying wastes, improving detergents, producing gasohol, and antibiotics.
- 2) Red bats, which live in tree foliage through most of North America, can withstand body temperatures as low as 23 degrees Fahrenheit during winter hibernation. Studying this internal heating system might be useful in development of insulation or even a warmer winter coat.

BLM's Bat Accomplishments

National Level Accomplishments:

- Development of a Cooperative Agreement with Bat Conservation International to help launch the North American Bats and Mines Initiative. BLM co-funding allowed hiring of a Bats/Mines coordinator position housed at BCI in Austin, Texas.
- Issuing of national guidance requiring bat conservation in the management of caves, and in closure of abandoned mines.
- Development of training course on bat inventory techniques. Courses were delivered in 1994 with more scheduled in 1995. Over 20 biologists were trained in first two sessions of the course.
- Cooperation in the publication of a "Bats and Mines" technical bulletin to receive wide distribution across the Nation.
- Hosting of press conference, interagency meetings, and seminars in Washington, D.C. on the importance of bat conservation in land management in general and preservation of abandoned mine habitat in particular.
- In addition, considerable effort has been made on development of policy regarding reducing bird and bat mortality as a result of lack of coverings on stacks of certain oil and gas production equipment. Final guidance has recently been issued by BLM.

Field Level Accomplishments:

Arizona

- Inventoried bat species and recorded vocalizations of eight species of bats in the Shivwits Resource Area, Mohave County. Cooperators include: BLM Arizona, O'Farrell Biological Consulting, Arizona Game and Fish Department.
- Working with ASARCO Inc., potential bat roost sites were inventoried on approximately 4,500 acres of BLM administered lands in the Phoenix Resource Area.
- The Tucson Resource Area received a Heritage Grant from the Arizona Game and Fish Department to survey abandoned mines in the Tucson Area for use by bats, including several Federal and state listed species. The Abandoned Mine-Finders, a volunteer group, provided over 2,500 hours of volunteer service locating the mines to be surveyed.
- Tucson Resource Area biologists assisted with light-tagging and radio-telemetry studies on the Federally endangered lesser long-nosed bat. The research was centered on Park Service, Tribal and Military lands adjacent to the Tucson Resource Area.
- In the Gila Resource Area, the AZCO Mine in Sanchez donated \$2,500 for bat habitat mitigation of their mine.
- A bat gate was installed at the entrance to a hazardous mine in the Kingman Resource Area in Arizona which is a winter home to about 2,000 California Leaf-nosed Bats, the largest winter roost documented. The mine also supports a large maternity colony of Yuma Myotis Bats during the summer. Cooperators included BCI and Brown-Berry Biological Consultants.

- Havasu Resource Area was awarded an Arizona Game and Fish Department Heritage Fund Grant for over \$21,000 to survey bats along the 36-mile Bill Williams River over an 18-month period. The grant was contracted to a professional bat researcher. One biologist assisted with the bat survey during the first field season, locating 4 Federal candidate bat species in various reproductive stages.
- In Arizona, the Shivwits Resource Area continued area-wide bat inventory, conducted site clearances and provided safe water facilities at 2 proposed oil and gas drill areas of up to 10 areas. They received an award of \$10,000 to conduct a bat vocal signatures study to reduce inventory effort.

Colorado

- The major action affecting bats is reclamation of abandoned mine sites that pose a hazard to the public or which threaten environmental quality. A total of sixteen abandoned mines were surveyed by BLM to determine their need for installing bat grates as the mines were being closed.
- A hands-on netting inventory conducted by a National Ecology Research Center field crew (NBS) mist-netted eight species of bats in pinon-juniper, ponderosa pine, and meadow plant communities in the Dominguez Canyon Area and Gunnison River watershed.
- A Memorandum of Understanding with the Colorado Division of Wildlife, U.S. Forest Service, and BLM provides guidance for closing inactive mine sites and defines procedures for surveying bats on abandoned mine sites on public lands. Two species are candidates for federal listing - spotted bat and fringed-tailed myotis. A state sensitive species is the Townsend's big-eared bat.

Idaho

- Inventories and mist net trapping have been conducted, both by BLM biologists and cooperators, in numerous caves, mines, and canyon areas. Designs for protective gates which will stop human access, but will let bats enter have been obtained from Bat Conservation International. Coordination is ongoing with minerals and safety staffs to use gates rather than filling in abandoned mines used by bats. Of special interest are the Townsend's big-eared bat and the spotted bat, both of which are candidate species. Conservation Agreements will be developed for these species.
- Winter hibernaculum surveys were conducted in fifteen caves on Idaho's Shoshone District.

Nevada

- The Ely District has taken the lead in Nevada in the inventory of abandoned mines for bats. Working with Bat Conservation International, local and national volunteers spent 220 hours inspecting 31 of 77 mines within the District that were scheduled for closure due to safety considerations. Twenty-nine percent of the mines held bats and another 45 percent were rated as suitable. Volunteers also monitored the 60,000 Mexican free-tailed bat population at Rose Guano Cave. This site was designated as a Historic Area in 1970 due to past mining for guano fertilizer.

BATS: MASTERS OF THE NIGHT SKIES

- A Memorandum of Understanding was developed with the Nevada State agency responsible for mine closure to protect bat habitat while addressing safety and liability concerns.

Oregon

- Bat surveys were initiated using the Anabat II monitoring device. BLM developed a method to identify local bats using bat detectors and developed a catalog of calls for future reference. Protective gates were installed on four bat caves and a cooperative agreement to gate and maintain caves used by bats was started.
- Efforts have focused on mist netting small ponds at night, and conducting day searches of bridges and other likely roost sites. Bridges provide significant day and night roost sites. Results of this effort have been very encouraging. All three special status species, and a good number of individual bats were found.
- An inventory for species occurrence, distribution and relative abundance was completed in cooperation with ODF&W and Southern Oregon State College on the Roseburg District. A total of 44 ponds and bridges located across the District were mist netted.

Utah

- In the Cedar City District, an inventory for the spotted bat was initiated under a Challenge Cost Share (CCS) agreement. Spotted bats were located at three of five

sites during the first survey. In the Richfield District, Spotted Bat surveys were conducted but none were confirmed. Bat and cave locations are being mapped for future use in conducting surveys of the spotted bat. This is a candidate species that is not well known in Utah. Two separate partners inventoried the bat under two CCS agreements. Utah State University was one of the partners and a private contractor was the other partner.

Wyoming

- The Cody Resource Area inventoried 500 acres for bat habitat and identified potential roosting caves on Little Mountain. An abandoned coal mine used by bats in the Washakie Resource Area had a gate installed in cooperation with the Abandoned Mined Land program of the Wyoming Department of Environmental Quality and the Wyoming Game and Fish Department. Ten bat houses have been placed in two areas in and near Rawlins to encourage bats to roost in the area, and an agreement is being developed with the City of Laramie to build and place bat houses. The project is hoped to offer an alternative in the area to spraying for mosquitoes, which in turn is a threat to the endangered Wyoming toad.
- The Wyoming State Office has entered a multi-year cooperative agreement with the Wyoming Game and Fish Department to do a baseline inventory of cave and mine bat habitat on public lands in Wyoming. Work was initiated in the summer of 1994.

NFWF Recommendation

Activity:

Threatened and Endangered Species

The Foundation recommends an increase of \$300,000 above the President's Budget request of \$18.3 million for the Threatened and Endangered Species Activity. This \$300,000 should be transferred, under a Memorandum of Agreement, to Bat Conservation International for the following purposes:

- 1) \$150,000 should go to support two full-time positions who will be dedicated to providing technical support to Federal and state agencies on bat conservation techniques; and
- 2) \$150,000 should go to challenge cost-share (multi-partner) projects in support of the Bats and Mines Project. These funds will be matched by states, non-government organizations, and other Federal agencies.

Accomplishments and Needs by State

- Alaska
- Arizona
- California
- Colorado
- Eastern States
- Idaho
- Montana
- New Mexico
- Nevada
- Oregon/Washington
- Utah
- Wyoming

ALASKA FISH, WILDLIFE AND PLANT FACTS

State:	Alaska
Total state acreage:	375,303,680 acres
Acres of BLM lands:	17,000,000 acres
Miles of fishable streams on BLM lands:	40,000 miles

Number of BLM:

Wildlife Biologists	3
Fisheries Biologists	1
Botanists	0
Total Fish, Wildlife and Plant Staff	4

Number of:

Endangered species	1
Species proposed for listing as endangered	1
Threatened species	1
Species proposed for listing as threatened	2
Recovery Plans written (as team member)	1
Recovery Plans being implemented	1
ESA Consultations (formal and informal)	3
Conservation Agreements written	0
Conservation Agreements being implemented	0

Number of projects since beginning of FY-93:

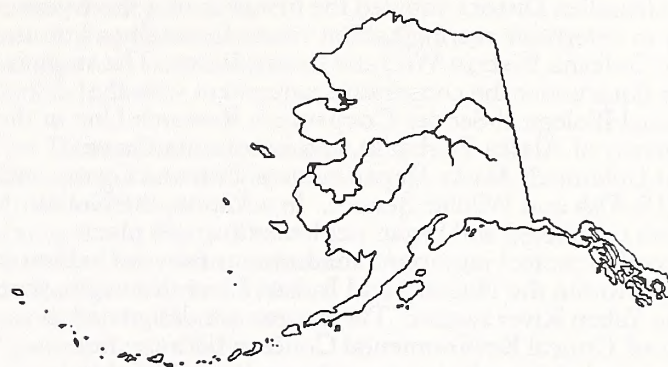
Partners In Flight (nongame birds)	1
North American Waterfowl Management Plan	2
Threatened/Endangered Species, wildlife	1
Threatened/Endangered Species, fish/mussels/snails	0
Threatened/Endangered Species, plants	1

Percent fishable streams inventoried	60
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Percent species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	0
Mountain Sheep	50
Nongame Migratory Bird Habitat	10
Raptor Habitat Management	0
Upland Game Bird Habitat Management	0
Watchable Wildlife	1
Waterfowl Habitat Management	40
Fisheries Habitat Management	1
Anadromous Fish Habitat Management	80
Resident Fish Habitat Management	1
Rare Plants and Natural Plant Communities	1
Special Status Fishes	more than 100 anadromous species

Percent terrestrial acres with degraded habitats:	less than 1
Percent stream miles with degraded habitats:	less than 1



to radio tag brown bears in the Kilbuck Mountains. This is the second year of a 6 year study. The tagged animals are used to track family groups of bears and to determine population structure and habitat use by the bears. Information is important for both subsistence and wildlife issues.

Environmental Education/Watchable Wildlife

Limits of acceptable change contract for Campbell Tract arranged with University of Idaho. This effort is a long term approach to maintaining environmental characteristics of this heavily used tract within the city limits of Anchorage.

Wetlands/Waterfowl/Riparian

Completed statistical analysis and write up of the water chemistry/vegetation/waterfowl production effort for the Kvichak area. Results of this study of this 1 million acre wetland area is used to compare productivity and waterfowl production of other areas within the Anchorage District. Waterfowl production was compared with chemical, and biological parameters of the wetlands.

Threatened and Endangered Species

Special status plant report for the Goodnews Bays plant survey. In cooperation with The Nature Conservancy, alpine areas in the Kilbuck and Ahklun mountains were surveyed for rare and endangered plants. Range extensions for up to 30 species were found, and several sensitive species were located and unique plant anomalies were identified.

Completed 6 weeks of ground surveys at Carter Spit conducting aerial and ground surveys for shorebirds and waterfowl. This included documenting use of the area by threatened Stellar's Eiders, Spectacled Eiders, Bristle-thighed Curlews during late summer and fall migration. Project collected baseline data to inventory the occurrence and abundance of all species of shorebirds, waterfowl, songbirds, seabirds within this unique coastal mudflat. Shorebird use will be evaluated for inclusion into the Western Hemisphere Shorebird Reserve Network. Project was completed in close cooperation with Fish and Wildlife Service-Yukon Delta and Togiak National Wildlife Refuges.

Neotropical Birds/Partners In Flight

All Alaska districts are working with Alaska Partners In Flight to establish Breeding Bird Surveys, off-road point counts and migration monitoring programs, to gain information on the state's huge, and largely unknown, nongame bird resources.

Raptor Management

A four-year study of nesting Bald Eagles was completed along the Gulkana River in Alaska. Results will be used to guide recreation management.

Accomplishments:**Subsistence/Big Game**

Conducted aerial survey of the Anvik/Bonasila river drainages to determine the relative abundance and distribution of the Western Arctic caribou herd. Project was completed in cooperation with the Alaska Department of Fish and Game. This information is important for management decisions related to wildlife and for subsistence issues.

Participated in a cooperative project with Alaska Department of Fish and Game, US Fish and Wildlife Service, and AUCP

Anadromous Fish

The Glenallen District initiated the first year of a three year study to determine rearing habitat values for steelhead trout in the Gulkana River, a Wild and Scenic River. The study is being done under the cooperative agreement with the National Biological Service Cooperative Research Unit at the University of Alaska-Fairbanks, and in consultation with Trout Unlimited, Alaska Department of Fish and Game, and the U.S. Fish and Wildlife Service. In addition, the Kobuk District completed and began implementing two plans designed to protect important anadromous fisheries habitat in streams within the Hogatza and Indian River drainages, part of the Yukon River system. These areas are designated as Areas of Critical Environmental Concern because they harbor vital chum salmon spawning and rearing habitat.

Needs:**Recreational Fishing Initiative (total need: \$85,000)**

Campbell Creek: Partnership among BLM, FWS, Alaska Department of Fish and Game, Alaska State Parks, USFS, Alaska Fly fishers; Anchorage School District, Boy Scouts: Streambank stabilization, channel restoration, revegetation, fishing deck. (\$35,000)

Little Susitna River: Partnership among BLM, FWS, Alaska Department of Fish and Game, Alaska Department of Natural Resources; Soil Conservation Service; King Salmon Fund; Alaska Sportfish Association: Stabilize stream banks and restore vegetation; public awareness program to reduce riparian and wetlands damage by raising awareness of impacts to sensitive areas. (\$50,000)

Data collection of fish and wildlife resources

Managed lands are hundreds of miles from BLM Offices and facilities and very remote. Travel to and from district lands is very expensive and difficult or impossible due to weather and terrain. The District is in need of infrastructure in the field. This includes people and facilities in bush communities that are closer to managed land resources. Specific projects needs throughout the District include:

- stream typing
- riparian inventory
- habitat typing of streams
- monitoring of placer mining impacts on fish, wildlife and plant species
- inventory of fish, mammals, and birds and their habitats

Ecosystem Management (Total Need: \$380,000)

Due to the size of the Anchorage District, the District is in need of information on baseline resource inventories. In addition, a final, stable land base free of changing land ownership is essential to plan inventories and make management decisions that will have effects many years into the future. A changing land base causes a reluctance to spend time and funds on resources that may not be under BLM management in a few years.

GIS will be one of the most important tools for ecosystem management in the future. For the district to take full advantage of the system, a modernized work station and the personnel to run it will be required. This includes personnel with system administration and programming skills, Arc-Info skills, a raster specialist, a vector specialist and a polygon specialist. A minimum of \$40,000 would be required for modernization equipment alone. Satellite scenes that provide information on vegetation class and habitat class is also essential. Wildlife will require an additional biologist and annually \$50,000 in operations dollars for inventory of wildlife resources. A land cover/vegetation specialist (botanist) is also essential for management of resources on an ecosystem level. Cooperation with other agencies (AK Dept. of Fish & Game, Fish and Wildlife Service) will continue, and MOU's should be established between all other landowners within an ecosystem. (\$90,000/4 FTE's)

Other related needs include: (\$290,000/5 FTE's)

1. Update GIS system for resource identification--\$40,000.
2. Additional Wildlife Biologist (1), Botanist (2), and Fishery Biologists (2)--\$200,000.
3. Operations funds for travel to inventory fish, wildlife, and plant resources--\$50,000.

ARIZONA FISH, WILDLIFE AND PLANT FACTS

Total state acreage:	72,700,000
Acres of BLM lands:	14,300,000
Miles of fishable streams on BLM lands:	1,142 miles

Number of:

Wildlife Biologists	19
Fisheries Biologists	3
Botanists	1
Total Fish, Wildlife and Plant Staff	24

Number of BLM:

Endangered species	38
Species proposed for listing as endangered	4
Threatened species	16
Species proposed for listing as threatened	2
Recovery Plans written (as team member)	4
Recovery Plans being implemented	28
ESA Consultations (formal and informal)	59
Conservation Agreements (C. A.'s) written	0
C. A.'s being implemented	0

Number of projects since FY 1993 primarily for:

Partners In Flight (nongame birds)	22
North American Waterfowl Management Plan	2
Threatened/Endangered Species, wildlife	44
Threatened/Endangered Species, fish/mussels/snails	28
Threatened/Endangered Species, plants	14

Percent of fishable streams inventoried since FY 1993: 18

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	N/A
Mountain Sheep	N/A
Nongame Migratory Bird Habitat	N/A
Raptor Habitat Management	N/A
Upland Game Bird Habitat Management	N/A
Watchable Wildlife	N/A
Waterfowl Habitat Management	N/A
Fisheries Habitat Management	N/A
Anadromous Fish Habitat Management	N/A
Resident Fish Habitat Management	N/A
Desert Tortoise	N/A
Rare Plants and Natural Plant Communities	N/A
Special Status Fishes	N/A

Percent terrestrial acres with degraded habitats: N/A

Percent stream miles with degraded habitats: 60

Areas and also incorporates standard safeguards for ensuring against resource damage and sustainability of wildlife habitat.

The Tucson Resource Area is developing the interagency Muleshoe Ecosystem Management Plan. The Muleshoe Ecosystem includes the Redfield Canyon Wilderness Area, the Hot Springs Riparian Area of Critical Environmental Concern and U.S. Forest Service lands.

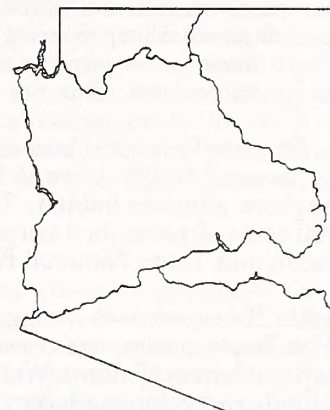
Seven perennial streams in the area provide habitat for 5 native fish species, all of which are Federal candidates. The ecosystem also provides habitat for over 35 special status species including Peregrine Falcon, Zone-tailed, Black and Gray Hawks, neotropical migratory birds and leopard frogs.

The Bill Williams River Corridor Technical Committee, an interagency committee composed of representatives from BLM, Bureau of Reclamation, Fish and Wildlife Service, Army Corps of Engineers, AZ Game & Fish Dept., Arizona State Parks, and AZ Dept. of Water Resources continued its efforts to provide coordinated water management along the 36-mile Bill Williams River and Alamo Lake. This year the committee prepared recommendations to manage water releases from Alamo Dam that balanced benefits to both upstream and downstream resources. This was a critical step to begin restoring riparian resources below the dam while maintaining an important warm water fisheries in Alamo Lake. The riparian system supports a rich diversity of species, including special status species. The lake fisheries supports 2 nesting bald eagle pairs and an active public fishing area. The recommendations are being formally endorsed by all involved agencies and, after appropriate National Environmental Policy Act coordination and public involvement, will be implemented by the Corps of Engineers. The spirit of cooperation with this group was an important educational experience for all agencies by increasing the awareness of important natural and public resources, resolving conflicts from an ecosystem approach, and understanding jurisdictional authorities of a variety of state and federal agencies.

An ecological site inventory, including riparian vegetation and stream channel morphology, was conducted along 22 miles of the Bill Williams River by a Havasu Resource Area interdisciplinary team. The team was comprised of specialists from the wildlife and fisheries, range/wild horse and burro, wilderness, and recreation programs, with surveying support provided by the civil engineering technician. In addition, water quality and macroinvertebrate sampling continued at 5 sites along the Bill Williams River. Results of these studies will be used to support a BLM instream flow application for the river to benefit riparian habitat and wildlife resources, and will be used to develop objectives for a coordinated resource management plan, scheduled to begin in Fiscal Year 1995 or 1996.

Big Game

An Ecosystem Management Team comprised of several agencies, a BLM interdisciplinary team, and private individuals representing various interests has been formed to develop a plan to manage the Black Mountain Ecosystem in Arizona. Major issues include forage allocation among desert bighorn sheep, mule deer, livestock and wild burros.



Accomplishments:

Ecosystem Management Projects

In cooperation with the Forest Service, the Phoenix Resource Area has organized the Agua Fria Grasslands Coalition which has developed a management plan for the 270,000 acres on BLM and Forest Service lands in the Agua Fria Grassland Ecosystem. Improved grazing management has resulted in improvement of riparian habitat along 16 miles of streams.

A statewide interdisciplinary team developed guidance for ephemeral livestock grazing on all Arizona BLM lands. This guidance ensures consistency between Districts and Resource

In cooperation with AZ Game & Fish Dept. and Arizona Desert Bighorn Sheep Society, two poorly functioning desert bighorn sheep water projects were redeveloped in the Lower Gila Resource Area. One new facility was also constructed.

The Phoenix Resource Area completed a prescribed burn plan covering 42,000 acres of BLM grassland to improve pronghorn antelope habitat. In FY 1994, BLM completed 4,900 acres of prescribed burning in cooperation with the Prescott and Tonto National Forests.

Havasu Resource Area biologists coordinated with AZ Game & Fish Dept. to complete construction of one new bighorn sheep catchment (Paloma Wash) using AGFD bighorn sheep tag funds and volunteer labor. No BLM money was used for the project. Biologists worked closely with AGFD to coordinate redevelopment of 2 bighorn sheep water catchments (Planet Peak Tunnel; Bill Williams catchment). No BLM money was spent on the Planet Peak Tunnel catchment, as all materials had been purchased in previous years. BLM spent \$10,000 in FY 1994 to purchase materials and provide helicopter support for the Bill Williams Catchment. Completion of these redevelopment projects was postponed until FY 1995 when sufficient cooperator funding and labor will be available. Using local Girl Scouts, one catchment apron (Boundary Catchment) was painted to blend with the natural desert colors to reduce reflection and visual impacts. No money was spent on this project in FY 1994, as all materials had been purchased in previous years. These catchments provide a permanent water source for expanding desert bighorn sheep populations in the Resource Area.

Watchable Wildlife

A Watchable Wildlife area was established at the BLM Burro Creek Campground in the Kingman Resource Area, Arizona. Signs have been put up on Highway 93 directing travelers into the campground. This is a cooperative project with the State of Arizona. Highway signs and road markers for all BLM Watchable Wildlife sites in the Arizona Viewing Guide have been installed.

In the Yuma District, BLM volunteers, organized the Betty's Kitchen Protective Association, led a number of interpretive tours along a 1/2-mile National Recreation Trail at Betty's Kitchen Watchable Wildlife Area. Work has begun to improve trail access and condition, riparian habitat, and interpretive facilities through an Arizona Game and Fish Department Heritage Fund Grant.

Neotropical Migratory Birds/ Partners In Flight

Arizona has been designated as a model State for the Partners in Flight initiative. BLM currently co-chairs the inventory and monitoring subgroup.

BLM's Tucson Resource Area continues to lead the bureau in songbird population data gathering in the San Pedro National Conservation Area, the Empire-Cienega watershed, and the Muleshoe Cooperative Management Area.

Riparian Area Management

Two hundred cottonwood poles, 100 willow poles, and 250 mesquite trees were planted at several sites along the Lower Colorado River and Lake Havasu, Arizona. A 15-acre site planted 4 years ago was maintained by removing invading salt cedar and arrowweed. These projects continue riparian restoration efforts on public lands along the river that began almost 10 years ago. The projects are attempting to restore native riparian vegetation that has been lost from much of the Lower Colorado River, providing important habitat for breeding and migratory birds.

Raptor Habitat Management

The ninth annual Gray Hawk survey on the San Pedro River, Arizona, was conducted in June and early July. An estimated 20+ nests were located this year with good nestling survival. The San Pedro Ecosystem is estimated to shelter 75% of the United States population of gray hawks, 40% of which are within the San Pedro National Conservation Area. In addition, raptor surveys were conducted throughout the remainder of Tucson Resource Area public lands for zone-tailed hawk, common black hawk, Swainson's hawk, red-tailed hawk and Cooper's hawk.

BLM's Gila Resource Area found 13 Black hawk and 3 Zone-tailed hawk nest while monitoring 22 miles in the Gila River, 14 miles in Bonita Creek, and 4 miles in Markham Creek. This type of data is critical to long-term management for these rare species.

BLM's Shivwits Resource Area, removed 6 miles of old powerline poles and replaced them with raptor-safe poles in cooperation with a local rural electric company.

Threatened and Endangered Species Management

Working with ASARCO Inc., potential bat roost sites were inventoried on approximately 4,500 acres of BLM administered lands in the Phoenix Resource Area.

The Tucson Resource Area received a Heritage Grant from the Arizona Game and Fish Department to survey abandoned mines in the Tucson Area for use by bats, including several Federal and state listed species. The Abandoned Mine-Finders, a volunteer group, provided over 2,500 hours of volunteer service locating the mines to be surveyed.

Tucson Resource Area biologists assisted with light-tagging and radio-telemetry studies on the Federally endangered Lesser long-nosed Bat. The research was centered on Park Service, Tribal and Military lands adjacent to the Tucson Resource Area.

In the Gila Resource Area, the AZCO Mine in Sanchez donated \$2,500 for bat habitat mitigation of their mine.

A bat gate was installed at the entrance to a hazardous mine in the Kingman Resource Area in Arizona which is a winter home to about 2,000 California Leaf-nosed Bats, the largest winter roost documented. The mine also supports a large maternity colony of Yuma Myotis Bats during the summer. Cooperators included Bat Conservation International and Brown-Berry Biological Consultants.

BLM's Havasu Resource Area was awarded an Arizona Game and Fish Department Heritage Fund Grant for over \$21,000 to survey bats along the 36-mile Bill Williams River over an 18-month period. The grant was contracted to a professional bat researcher. One biologist assisted with the bat survey during the first field season, locating 4 Federal candidate bat species in various reproductive stages.

BLM's Shivwits Resource Area continued areawide bat inventory, conducted site clearances and provided safe water facilities at 2 proposed oil and gas drill areas of up to 10 acres.

Needs:

Wildlife Water Development

Wildlife water development is an important cooperative program between the Yuma District and the Arizona Game and Fish Department. There are approximately 25 proposed

new water developments and 30 existing developments in need of repair in order to function properly. There are 11 livestock well developments that need to be redeveloped in order to provide reliable water to wildlife. In FY 1995 BLM found that many wildlife catchments and livestock water storage tanks are causing excessive wildlife mortalities. The extent of this problem is unclear, but certainly dozens of animals per year are drowning. Species range from ground squirrels to goshawks and mule deer. Mitigation is needed, but to safely cover the scores of tanks will be very expensive. Tank covers on large storage tanks may cost in excess of \$2000.00 each. Fences will prevent deer deaths but not those of birds. BLM will need to redevelop six wildlife water developments that are not currently functioning properly. Water collection systems and/or storage capabilities are not adequate to provide reliable water during the critical summer months. (\$235,000)

Desert Tortoise

Information is needed for Desert Tortoise management and Recovery. Specific needs include:

1. Contract monitoring of Desert Tortoise study plots on Lower San Pedro River and West Silverbell mountains.
2. Complete Desert Tortoise shelter site study. Location: Beaver Dam Slope, Mohave County, Arizona.
3. Collect baseline health profiles of desert tortoises in the Mojave Desert.
4. Understand tortoise ecology, behavior, and habitat requirements; examine nutrition, reproduction and recruitment, including mortality factors for juveniles.

Funding these projects will enable BLM to implement recovery plan goals and objectives. (\$78,000)

Kingfisher ponds fishery enhancement

Develop a viewing area for special status fishes of the San Pedro at abandoned gravel pit ponds and a wildlife viewing site at Kingfisher Ponds within the San Pedro River Riparian National Conservation Area. (\$100,000)

Cienega Creek restoration

Return 1.5 miles of creek to natural channel restoring endangered fish and riparian habitats. Complete engineering feasibility and restoration of the Cienega Creek channel. (\$300,000)

Colorado River Nature Center

The Colorado River Nature Center is managed through a Cooperative Management Agreement and Development Plan with BLM, AGFD, and Bullhead City. Plans for the Nature Center include construction of a 53-acre backwater, restoration of 150 acres of native riparian vegetation on a floodplain, and construction of interpretive trails for low-impact recreation. Construction of Phase I (32 acres) of the backwater will begin in FY 1995 through a cooperative agreement established between AGFD and Mojave Valley Resorts, Inc. (MVR). MVR is constructing the backwater as off-site mitigation for a development across the Colorado River in Nevada. All funds and labor for this phase of the backwater will be provided by MVR. An environmental assessment to address a 150-acre riparian restoration project at the Nature Center will be completed by Havasu Resource Area in FY 1995. No BLM funding is available in FY 1995 to begin the revegetation work, which will be completed in 5-20 acre parcels over 10 years. Total BLM costs for development of the Nature Center is estimated to be \$100,000. Bullhead City will install a 3,000-foot irrigation mainline in FY 1995 to

prepare for the revegetation work. The backwater and riparian revegetation projects will restore valuable wetland and riparian habitat and provide a quality low-impact recreation site for the public on one of the last remaining undeveloped sections of public land along the Colorado River in Bullhead City. BLM needs to complete site preparation for the Colorado River Nature Center along the lower Colorado River. (\$15,000)

Bat Surveys

Continue inventory of abandoned mines for importance as bat roosts in cooperation with Arizona. Game and Fish Dept. Continue inventory of bat species and recording vocalizations, radio-tag and track sensitive species opportunistically. Inventory bat species on the Shivwits Resource Area. Identify sensitive bat species and those useful as indicators of ecosystem health. Develop a catalog of bat vocalizations for local species. (\$30,000)

Beaver Dam Access

Prevent off-highway vehicle damage to sensitive desert tortoise habitat on parts of the Beaver Dam Slope, reduce harmful specimen collecting and vandalism, prevent illegal dumping, and prevent tortoise road kills. Install fences, gates, and signs, and close and rehabilitate roads on the Beaver Dam Slope, and prevent tortoises from wandering from the slope into the community of Beaver Dam. (\$16,000)

Brady's pincushion cactus

Conduct a study of soil types associated with known populations of Brady's pincushion cactus to enable better prediction long term management (\$20,000).

Gila topminnow grazing study

Examine effects of grazing and proposed grazing changes on largest population of endangered Gila topminnow in U.S. and conduct life history livestock grazing impact studies on populations of Gila chub and Gila topminnow. (\$48,000)

Virgin River Native Fish monitoring and recovery

Monitor federally listed native fish populations in the Virgin River, assist in development of a conservation agreement for Virgin spinedace, identify factors limiting native fish population recovery, and assist recovery team in non-native fish eradication efforts. (\$5,000)

Bill Williams River Instream Flow Monitoring

Depending on the results of negotiations among the cooperating agencies on the Bill Williams River Corridor Technical and Steering Committees, approximately 3 work-months may be needed in FY 1995 or FY 1996 to revise BLM's water rights application to support the recommendations of the Technical Committee. Besides the current wildlife staff in Havasu Resource Area, additional time (work-months) will be required by the Yuma District water rights coordinator to assist this process. Additional funding is needed to continue monitoring water quality and macroinvertebrates, install groundwater monitoring well points, and monitor riparian vegetative study plots in the Bill Williams River corridor to support the BLM instream flow water right. (\$6,000)

Ecosystem Planning

BLM is currently developing ecosystem-based plans in several areas throughout the State (examples: Black Mountain, Agua Fria, and Parashant). These plans are labor intensive and time consuming. Currently most of these efforts are severely underfunded. (\$265,000)

CALIFORNIA FISH, WILDLIFE, AND PLANT FACTS

Total state acreage: 101,000,000
 Acres of BLM lands: 17,000,000

Miles of fishable streams on BLM lands: 1,200

Number of BLM:

Wildlife Biologists 21
 Fisheries Biologists 3
 Botanists 11
 Total Staff 35

Number of BLM:

Endangered species 40
 Species proposed for listing as endangered 11
 Threatened species 17
 Species proposed for listing as threatened 2
 Recovery Plans written (as team member) 4
 Recovery Plans being implemented 11
 ESA Consultations (formal and informal) 101
 Conservation Agreements written 3
 Conservation Agreements being implemented 2

Number of projects since beginning of FY 1993:

Partners in Flight (nongame birds) 47
 North American Waterfowl Management Plan 21
 Threatened/Endangered Species, wildlife 12
 Threatened/Endangered Species, fish 10
 Threatened/Endangered Species, plants 15

Percent of fishable streams inventoried since FY 1993: 20

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

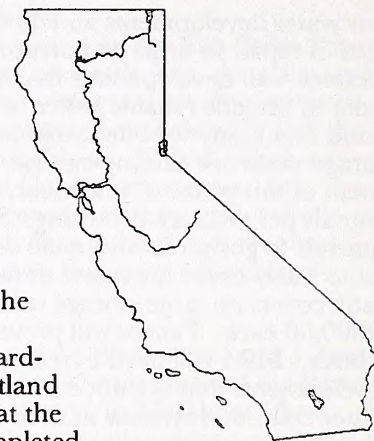
Desert Bighorn Sheep Habitat Management 100%
 Mountain Sheep -
 Nongame Migratory Bird Habitat 25
 Raptor Habitat Management 50
 Upland Game Bird Habitat Management 20
 Watchable Wildlife 25
 Fisheries Habitat Management 10
 Anadromous Fish Habitat Management 20
 Resident Fish Habitat Management 15
 Desert Tortoise 95
 Rare Plants and Natural Plant Communities 5
 Special Status Fishes 20

Percent terrestrial acres with degraded habitats unknown

Percent stream miles with degraded habitats unknown

patrolling by BLM rangers, and coordinating with other enforcement agencies (California Fish and Game and U.S. Fish and Wildlife Service). To inform and educate the public on riparian/wetland values, BLM constructed the Visitor Center at the Cosumnes River Preserve. The Visitor Center was dedicated March 3, 1994. Both the boardwalk into the Lost Slough wetland and the interpretive displays at the Visitor Center are nearly completed.

The Wetlands Manager gave tours to 9 groups during the year. The base has been laid for effective information and education in the future. To foster coordination and cooperation in riparian/wetland values, the Folsom Resource Area has developed and signed a Cooperative Agreement among the core partners at the Cosumnes River Preserve (BLM, Ducks Unlimited, The Nature Conservancy, Calif. Dept. of Fish and Game, and the County of Sacramento). Progress is being made toward the inclusion of additional partners.

**Threatened and Endangered Species**

Goose Lake Basin Ecosystem Management Area - The BLM's fisheries Biologist Gina Sato took the initiative and reached out to private landowners in the Goose Lake Basin to form a bi-county committee to serve as an organizational focus for private property owners and local government to devise and implement a long term, cooperative, voluntary, habitat enhancement program on both public and private land that will recover all of the remaining native fish species of the basin so that endangered species listings will be unnecessary for any of them, while at the same time preserving the basin's equally unique economic resources and human communities. Moreover, several aquatic and riparian habitat protection projects were completed in 1994.

Special Status Plants/Celebrating Wildflowers

Completed monitoring study to evaluate effects of geophysical operations on a listed plant species (Kern mallow), two listed animal species (giant kangaroo rat and blunt-nosed leopard lizard) and a candidate animal species (short-nosed kangaroo rat) in the Carrizo Plain Natural Area.

Anadromous Fish

Klamath Basin/Grassvalley Creek Ecosystem Management Area. In 1994 we put-to-bed 3 miles of old logging road within the Grassvalley watershed. This project was within 17,000 acres that was acquired by BLM in 1994. The area was private land that was acquired by the BOR in order to help restore the salmon stocks in the Trinity River.

Needs:

Recreational Fishing Initiative (total need: \$1,855,000)
Dos Palmas - Develop fisheries recreation sites with cooperation from the local community and other agencies. (\$190,000)

Klamath River Basin - Trinity River: Grass Valley Creek watershed restoration to eliminate 70% of the sediment that washes into the Trinity River. Partnership among 14 agencies to restore salmon habitat. (\$840,000)

Accomplishments:**Wetland/Waterfowl/Riparian**

Cosumnes River Ecosystem Management Area- To improve riparian/wetland values, CA BLM completed restoration (including dike construction and water control structure installation) on 170 acres comprising the Lost Slough East unit of the Cosumnes River Preserve wetlands. An additional 850 acres at the Preserve were maintained through dike maintenance, water management, and pump and pipe repair. To protect riparian/wetland values, BLM gained an appropriate level of protection of the wetlands at the Cosumnes River Preserve by posting additional no-trespassing signs,

Mattole River Basin/King Range National Conservation Area - Partnership among California Departments of Fish and Game, Water Resources, and Forestry and Water Resources Control Board; FS, NRCS, NMFS, EPA, FWS, BIA, Trout Unlimited, Mattole Restoration Council and other local groups: Riparian Habitat Restoration, Stream Channel Stabilization, to improve conditions and prevent further decline of salmon populations. (\$700,000)

Pit River - Improve recreational fishing access. (\$50,000)

Susan River, Hobo Camp - Improve recreational fishing access and stabilize riparian area. (\$75,000)

Ecosystem Management

The conservation of biological diversity is California's challenge of the 1990s. Pressure from a rapidly growing population has seriously impacted one of the most biologically diverse areas in the world. Conserving the biological diversity that remains, while fostering orderly and reasoned economic growth, is the goal of BLM-California, the State Resources Agency, and the other State and Federal agencies that are signatory to the Memorandum of Understanding (MOU) on California's Coordinated Regional Strategy to Conserve Biological Diversity. All eight county associations have signed an agreement to support the intent of the MOU, and both the San Diego and Southern California Associations of Governments (SDAG and SCAG) recently followed suit.

Developing and implementing integrated, interdisciplinary, interagency plans and monitoring efforts is the principal focus of BLM-California. These plans emphasize the management of entire ecosystems without regard to political boundaries. The attainment and maintenance of healthy, functioning ecosystems and the conservation of biological diversity is the goal of these plans. Planning decisions are made on a collaborative basis, involving all interested and responsible parties. Some of these planning efforts are highlighted below. All of these efforts have required at least one work month of time and some have required as much as six work months, such as the San Joaquin Valley effort.

Klamath Bioregional Planning Efforts. (Key species: salmon and steelhead (several stocks at risk), Threatened/Endangered species, and old-growth forest). CA BLM continues to be active in ecosystem and biodiversity issues in the Klamath Bioregion of northwestern California. BLM participates in all the sub-regional efforts taking place in the Bioregion, including the Eureka, Sonoma-Garberville, Mount Shasta, Trinity/Hayfork, and Shasta/Tehama groups. These efforts are directed at identifying local natural resource issues and, through a collaborative decision-making process, prescribing management to solve these issues. The Bureau is especially involved in three major ecosystem management efforts in the Bioregion: 1) development of a Coordinated Resource Management Plan for the Grass Valley Creek Watershed to begin restoring this critical watershed to recover anadromous and resident fisheries; 2) restoration of the Mattole River watershed, with the participation of several local groups, the California Department of Fish and Game, and several timber companies; and 3) development of a CRMP for the Cache Creek Management Area, an area that includes significant foothill and riparian resources, remnant stands of the original California bunch grass prairie, and important habitat for raptors and nongame migratory birds. (\$2,000,000/8 FTE's)

San Joaquin Valley Biodiversity Conservation. (Key species/habitat: Threatened/Endangered plant and animal species,

CA Central Valley Wetlands, and nongame birds). The long-term objective of this effort is the development and implementation of an intergovernmental/interagency approach to conserve the biological diversity of the San Joaquin Valley. Conversion of natural lands for use in agriculture, urban expansion, and energy development has resulted in a significant loss of biological diversity and the listing of several species of plants and animals as endangered or threatened. This effort involves several Federal and State agencies and several counties. The framework for communication and coordination in the San Joaquin Valley is a regional consortium led by county government and representing all affected individuals and agencies. The goal of the consortium is to produce—through consensus of all parties—a regional strategy that balances environmental and economic concerns in the Valley. This region includes the BLM Carrizo Plain Natural Area. The Carrizo Plain is the largest remaining representation of the San Joaquin Valley Biogeographic Province. Management of the area involves the cooperation of BLM, The Nature Conservancy, the Fish and Wildlife Service, the California Department of Fish and Game, and private industry. Implementation of the plan for the area continues, with several actions planned to protect and enhance the habitat of the threatened and endangered plants and animals of the area. (\$1,000,000/5 FTE's)

Fort Ord Biodiversity Management. (Key species/habitat: Threatened/Endangered plant and animal species, and wetlands). In FY 1994 we assumed management responsibility for about 10,000 acres of land at Fort Ord in Monterey County (we will likely assume responsibility for another 7,000 acres later). The maritime chaparral habitat on these lands is considered the best remaining example of this habitat type in the world. The area also contains significant rare dune habitats, vernal pool wetlands, and native grasslands. Scattered throughout these habitat areas are numerous populations of rare species, including four T/E listed or proposed plants, three T/E listed or proposed animal species, seven other Federal candidate plants, 11 additional special status plants, and 19 other special status animal species. Work will begin on a coordinated resource management plan for the entire ecosystem. The CRMP will also serve as a Habitat Conservation Plan. Other Federal agencies, State agencies, and local governments would be invited to be involved. (\$500,000/2 FTE's)

West Mojave Coordinated Management Plan. (Key species/habitat: Threatened/Endangered species, and riparian habitat). This plan covers over 9.5 million acres of Federal, State, and private lands in the western Mojave Desert. The planning effort involves several Federal and State agencies, three counties, and 11 incorporated towns and cities. The plan covers numerous vegetation communities and addresses several listed animal species and many candidate plant species. The plan will implement the desert tortoise recovery plan and will serve as a habitat conservation plan (HCP) for the private lands within the planning area. The HCP will provide an Endangered Species Act Section 10a permit (for incidental take) as well as a State endangered species permit. The plan will be issued in draft in FY 1994 and in final in FY 1995. (\$1,000,000/4 FTE's)

East Lassen Ecosystem Management Plans. (Key species/habitat: Threatened/Endangered species, Big Game, Raptors, Riparian habitat). When finished, these ecosystem management plans will cover at least three watersheds and will do much to conserve and enhance the biological diversity of more than 1 million acres of northeastern California and northwestern Nevada. The plans are being developed using

the coordinated resource management planning process. This plan includes some protection and enhancement projects, however the real key to managing the East Lassen Ecosystem is providing on the ground management and monitoring. (\$500,000/6 FTE's)

Improve habitat in conjunction with riparian management projects in the East Lassen Bioregion. (\$20,000)

Improve riparian habitat to support mountain quail, a candidate species for listing under the ESA, in the Susanville District. (\$45,000)

Construct restrooms, boardwalks, viewing platforms, interpretive signing and other facilities at seven wildlife viewing areas identified in the California Desert's Watchable Wildlife Plan. (\$191,000)

Implement the "Anadromous Salmonid Habitat and Management and Funding Initiative for northern California Watersheds". Of the 314 anadromous fish stocks considered at risk in 146 basins listed in the Forest Ecosystem Management Assessment Team (FEMAT) report, BLM manages streamside land in 52 watersheds containing at least 120 of these stocks. BLM has approximately 1,500 miles of stream in California located in coastal watersheds containing and influencing anadromous salmonid production. (\$6,000,000)

Continue a *Bring Back The Natives* habitat restoration project in the Mattole watershed, California. (\$500,000)

Improve habitat in conjunction with riparian management projects in the Sacramento Valley, Bay Area/Delta and Southern Sierra Bioregions. (\$60,000)

COLORADO FISH, WILDLIFE AND PLANT FACTS

Total state Acreage:	66,000,000
Acres of BLM lands:	8,300,000
Miles of fishable streams on BLM:	2,505

Number of BLM:	
Wildlife Biologists	13
Wetland Biologists	1
Fisheries Biologists	3
Botanist	1
Total fish, wildlife, plant staff	18

Number of:	
Endangered species	18
Species proposed for listing as endangered	3
Threatened species	10
Species proposed for listing as threatened	1
Recovery Plans written (as team member)	5
Recovery Plans being implemented	10
FY 1994 ESA Consultations (formal and informal)	17
Conservation Agreements written	2
Conservation Agreements being implemented	1

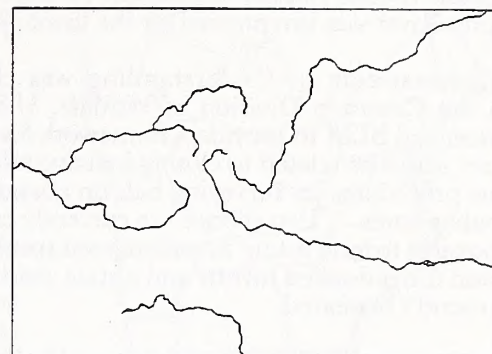
Number of projects since beginning of FY 1993:	
Partners in Flight (nongame birds)	17
North American Waterfowl Management Plan	3
Threatened/Endangered Species, Wildlife	9
Threatened/Endangered Species, Fish/Mussels/Snails	16
Threatened/Endangered Species, Plants	22

Percent of fishable streams inventoried since FY 1993:	15
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Percent of species in the following National Strategic Plans with an inventory of any size or scope:	
Desert Bighorn Sheep Habitat Management	10
Mountain Sheep	0
Nongame Migratory Bird Habitat	5
Raptor Habitat Management	15
Upland Game Bird Habitat Management	15
Watchable Wildlife	0
Waterfowl Habitat Management	2
Fisheries Habitat Management	15
Anadromous Fish Habitat Management	0
Resident Fish Habitat Management	2
Desert Tortoise	0
Rare Plants & Natural Communities	20
Special Status Fish	5

Percent terrestrial acres degraded Habitat:	Unknown
Percent stream miles with degraded Habitat:	20

Over 60,000 acres of habitat were surveyed to locate and monitor strutting grounds (leks) for the Gunnison Basin sage grouse. In cooperation with the Colorado Division of Wildlife,



10,000 acres have been inventoried to collect vegetation quality information for Gunnison sage grouse, and twenty sage grouse have been radio tagged to monitor movements and habitat use.

BLM sponsored the Southwestern willow flycatcher workshop held in Grand Junction to assist biologists from all land management agencies in adopting an inventory protocol for this species. Two thousand acres were surveyed for potential habitat for the southwestern willow flycatcher, and 5,000 acres of suitable habitat were intensively surveyed for the presence of this species.

Inventoried 12,000 for federally listed Mexican Spotted Owl and continued research on MSO breeding and habitat requirements with the USFS Research Unit at Fort Collins, CO.

Field surveys for the presence of the Uncompahgre Friillary butterfly were completed on 350 acres.

Roan and Carr Creeks were found to have very pure strains of Colorado River Cutthroat trout. Field inventory was done to determine whether barriers to migration of Brook Trout into Roan Creek existed, and to examine existing barriers on Carr Creek to determine whether they would be sufficient to stop remigration of Brook trout into the drainage after they are eradicated.

Established macroinvertebrate population baseline studies on 10 miles of stream for the Colorado River cutthroat trout (CRCT) to evaluate response to changes in management practices. Inventory five miles of stream to determine habitat suitability for reintroduction of CRCT. Fence maintenance was provided by the local chapter of Trout Unlimited on two miles of stream with CRCT fisheries.

Through a cooperative effort with Washington University in St. Louis, financial support for genetic sampling of the clay loving wild buckwheat, to determine if this endangered species was a valid species. Additional cooperative work with the University of Wyoming resulted in completing a floristic inventory of the San Miguel River watershed. Inventories of habitat for clove phlox (200 acres) and Mesa Verde cactus (300 acres) were completed. Inventories were also completed on 5,000 acres of habitat for the skiff milkvetch, and 12 known sites were resurveyed in cooperation with the Colorado Natural Areas Program, and the Colorado Native Plant Society. Four trend transects were also completed. Inventories were conducted on 5,000 acres of Gunnison milkvetch habitat and numerous new occurrences of this species were reported. Funding was provided to the Colorado Natural

Accomplishments:

Riparian ecological site inventories were conducted on 20,000 acres and 200 miles of stream were surveyed to determine proper functioning condition. Approximately 166 miles of stream were inventoried and classified to determine overall plant condition and utilization levels. Proper function condition evaluation was completed on 95 miles of streams.

The Blanca Wetlands Area, a major waterfowl production area, received appropriations for the purchase of water rights in the San Luis Valley to stabilize wetlands for waterfowl and shorebird nesting and production.

Areas Program to assist in a study of potential threats to the candidate species *Phacelia submutica* in the DeBeque area. The Dolores River was inventoried for the listed *Spiranthes diluvialis*.

A Memorandum of Understanding was consummated with the Colorado Division of Wildlife, U.S. Forest Service, and BLM to provide a framework for cooperating agency activities related to closing inactive mine sites and to define procedures for surveying bats on abandoned mine sites on public lands. Two species are currently candidate species for possible federal listing as endangered species -- spotted bat and fringed-tailed myotis and a state sensitive species-- Townsend's big-eared.

A hands-on netting inventory conducted by the Fish and Wildlife Service, National Ecology Research Center field crew (now part of the National Biological Service) mistnetted in the Dominguez Canyon Area, Gunnison River watershed, eight species of bats in pinon-juniper, ponderosa pine, and meadow plant community.

The State Neotropical Migratory Bird plan was developed and implementation is in progress. Neotropical bird survey and transects were established in priority habitats across all 4 Districts. BLM biologists participated in conducting breed bird surveys to complete the statewide Breed Atlas project. This year's surveys will end the 7 year effort. The project will be published with BLM being a major cooperator and contributor.

Improvement of fisheries habitat consists of rock placement projects completed on the middle Lake Fork of the Gunnison. One mile of habitat on the upper Lake Fork of the Gunnison was inventoried to provide information for the planning of habitat enhancement projects to be installed in FY 95. 173 miles of stream inventory have been completed. Macroinvertebrates were monitored on seven streams.

Needs:

The increase in the federal candidate listing (currently 57 special status species) requiring information on status, distribution, and identification of land use impact is beyond existing professional staff's capability and expertise. The workload in other Threatened/Endangered Species programs removes opportunities to comply with need assessments of plant communities and biodiversity issues to develop conservation agreements for these candidate species before they are listed. (\$120,000)

Currently, fewer than 20 percent of all Colorado's breeding bird species are effectively monitored. Propose to establish a project that will enable the monitoring of at least 80 percent of the State's 265 breeding species by the year 2000. Three-quarters of these breeding species occur on BLM public lands. Funding is needed to actively participate in the Partners in Flight program. (\$84,000)

It is necessary to establish an ecological base to assess vegetation community potential for partnership planning and management of ecosystems. Several integrated ecosystem management projects requiring ecological site inventories (ESI) are Gunnison Basin, Disappointment Valley, Alpine Triangle, Powderhorn, Grand Mesa Slope, and Blue Canyon. (\$200,000)

The Gunnison sage grouse is an important upland species in the Uncompahgre Valley and Gunnison Basin sagebrush ecosystems. Strategic management plans are being developed to address the issues associated with the decline of this subspecies over the last 30 years due to poor habitat conditions. (\$100,000)

The reintroduction of captive raised black-footed ferret into the Colorado site(s) would help meet the BLM's goals established in the Black-footed Ferret Recovery Plan. Unfortunately the existing captive production facilities in Wyoming and participating institutions (zoos) are unable to accommodate the number of juvenile endangered ferrets needed for each release site in several states including Colorado. To cooperatively assist the US Fish and Wildlife Service in doubling the ferret production to 200 juveniles and conducting research on the effect of plague on ferrets and prairie dog habitat, funding is needed to implement the BFF Recovery Plan and conduct monitoring studies in Colorado over the next five years. (\$250,000)

Implement the newly created Intermountain West Joint Venture Project of the North American Waterfowl Management Plan to restore wetland habitat and production of wetland depended bird species in four focus areas on BLM public lands. This joint partnership with Colorado Division of Wildlife, Fish and Wildlife Service, Ducks Unlimited, private landowners, and other agencies and organizations has the opportunity to restore over 100,000 acres of wetland on BLM in Colorado. Two large wetland projects are being planned for the Blanca Wetlands and Hebron Slough areas with funding necessary for water rights, water conveyance facilities maintenance and new construction. (\$200,000)

Improve and maintain fisheries habitat along the major Colorado rivers and high quality fishing streams through assessing instream flow requirements for resident and native fish. The current priority river is the Gunnison where contract work to determine minimum stream flows requirements needs to be initiated. (\$40,000)

Two major projects, Southwest Colorado LANDSAT Vegetation Classification and the Colorado GAP Analysis, are partnership efforts with several federal land management agencies, state agencies, and universities that are near completion. Both of these vegetation classification efforts will assist in the analysis of vegetation communities on private and federal lands; quantify natural (rare) vegetation communities; and identifying priority rangeland management areas for future monitoring efforts. (\$55,000)

EASTERN STATES FISH, WILDLIFE AND PLANT FACTS

Total states acreage	741,627,000
Acres of BLM lands	19,000
Acres of subsurface responsibility ¹	40,000,000 ¹
Miles of fishable streams on BLM lands	0

Number of BLM:

Wildlife Biologists	3
Fisheries Biologists	0
Botanists	0
Total Fish, Wildlife and Plant Staff	3

Number of:

Endangered species	200
Species proposed for listing as endangered	Unknown
Threatened species	83
Species proposed for listing as threatened	Unknown
Recovery Plans written (as team member)	0
Recovery Plans being implemented	1
ESA Consultations (formal and informal)	2
Conservation Agreements written	0
Conservation Agreements being implemented	0

Number of projects since beginning of FY 1993:

Partners in Flight (nongame birds)	1
North American Waterfowl Management Plan	0
Threatened/Endangered Species, wildlife	3
Threatened/Endangered Species, fish/mussels/snails	0
Threatened/Endangered Species, plants	1

Percent of fishable streams inventoried since FY 1993: 0

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	NA
Mountain Sheep	NA
Nongame Migratory Bird Habitat	Neg./Sig. ²
Raptor Habitat Management	Negligible ³
Upland Game Bird Habitat Management	Neg./Sig. ²
Watchable Wildlife	4 sites
Waterfowl Habitat Management	Neg./Sig. ²
Fisheries Habitat Management	Negligible ³
Anadromous Fish Habitat Management	NA
Resident Fish Habitat Management	Negligible ³
Desert Tortoise	NA
Rare Plants and Natural Plant Communities	3
Special Status Fishes	Neg./Sig. ²

Percent terrestrial acres with degraded habitats: 0⁴

Percent stream miles with degraded habitat: 0

¹Eastern States BLM administers more than 40,000,000 acres of Federal minerals. The surface ownership ranges from U.S. Forest Service and Army Corps of Engineers to State Parks and private owners. In many cases, the BLM conducts the environmental analysis or coordinates with sister agencies to complete the environmental analysis. Groups of species and habitats most often considered in operational stipulations include Neotropical migratory nongame birds, TES wildlife, TES fish/mussels/snails, TES plants, Rare plant communities, waterfowl, and wetlands.

²Neg./Sig. - The percentage of habitat by surface ownership may be negligible in acres but is significant in potential indirect effects due to minerals leasing on split estates.

³Negligible - The percentage of habitat is negligible by surface ownership but there is opportunity to partner with multiple land owners within ecoregions.

⁴Problems in identification of lands free of ownership disputes have made it difficult to determine which degraded lands are actually BLM lands.

Accomplishments:

Environmental Education

The Eastern States Office conducted its fourth Kid's Fishing Day on the Occoquan River in Virginia. This pairing of DC-area kids with local bass fishermen provided recreation and environmental education at the same time.



Resource Management Planning

The first Eastern States Resource Management Plan was completed for BLM holdings in Florida, including seven areas with surface tracts and 395,00 acres of federal mineral estate. Major components of the plan included restrictions on recreational use on coastal tracts with nesting sea turtles, special status plants and wintering piping plover. As part of the plan, specific standard stipulations were developed to reduce impacts to special status species from potential development of Federal limestone, phosphate, or oil and gas resources. Species included are gulf sturgeon, bald eagle, red-cockaded woodpecker, Florida panther, Choctawhatchee beach mouse, bog-button, beach jacquemontia, Chapman's butterwort, and large-leaved jointweed. In addition, draft stipulations were developed for protecting heron rookeries and scrub oak and other rare plant communities. In Jupiter, Florida, baseline inventories have been completed and monitoring of a threatened Florida scrub jay population initiated. A scoping meeting was held during FY 1994 with representatives from local government, non-governmental groups, private citizens, and other federal agencies to begin the process of developing the site specific plan needed to restore and maintain this sensitive tract.

Resident Fisheries

Elbow Lake Walleye Spawning Reef - Challenge Cost Share Project with Minnesota Department of Natural Resources (DNR) to construct a walleye spawning reef in northeastern Minnesota and monitor subsequent walleye recruitment. Walleye reproduction in Elbow Lake is currently low due to the lake of suitable spawning habitat.

Watchable Wildlife

BLM Eastern States cosponsored and contributed to the Michigan Wildlife Viewing Guide Project. BLM cost was \$5,000. Lighthouse tracts administered by the BLM through withdrawal relinquishment are tracts adjacent to federal, state, or private sites included in the viewing guide. Cooperators included the Michigan Department of Natural Resources, the US Forest Service, the Michigan travel Bureau, Detroit Edison, the Michigan Audubon Society, and the U. S. Fish and Wildlife Service.

Environmental Education

The Jackson District Office and the Piney Woods School conducted a week-long environmental education camp in July at Crows Neck Environmental Education Center in northeast Mississippi at a cost of \$8,000. This was part of the school's summer enrichment program. Students from Washington DC to Alaska participated in the week-long camp.

Needs:**Recreational Fishing**

Lake Vermilion Universal Access Fishing Pier - A Challenge Cost Share project with Minnesota Department of Natural Resources (DNR) to develop a barrier-free fishing pier on state administered land. (\$15,000)

Nongame Birds

Minnesota Bird Diversity Project: An ongoing long-term monitoring and management effort designed to maintain Minnesota's unique diversity of forest birds. Cooperators include state and federal resource agencies, conservation organizations, private foundations, forest products companies, and private individuals. As a current cooperator in the Lake Vermilion CRMP and numerous lands and minerals projects, it is appropriate for BLM to be a contributor to the project. (\$10,000)

Wisconsin and Georgia Breeding Bird Atlas Projects: The projects will determine distribution, location, abundance, and nesting success data to be used for management of habitat on an ecosystem basis. These atlases play a major role in enhancing neotropical migratory land bird management. BLM is a significant player in this national initiative that includes a large consortium of government and non-government organizations. (\$20,000)

Environmental Education

Develop cooperative information/interpretation plan for public islands in Lake Vermilion in cooperation with the Minnesota Department of Natural Resources and the USDA Forest Service. (\$5,000)

Threatened/End. Species, Watchable Wildlife

Implementation of Jupiter Inlet ACEC plan: This is a top priority and includes habitat restoration benefiting 13 candidate or federally listed species, and the development of watchable wildlife opportunities in Jupiter, Florida. Habitat restoration and interpretive/visitor control facilities for the protection of this remnant tract of coastal Florida scrub are planned for 1996. Also included is monitoring of the Florida scrub jay population at Jupiter Inlet. This intensive ongoing monitoring program is coordinated with private individuals (volunteers) and the Nature Conservancy. (\$12,000 which includes \$2,000 Challenge Cost Share for scrub jay monitoring)

Watchable Wildlife, Nongame Bird

Eastern States Lighthouse CRMP: From Michigan to Florida, BLM is reviewing withdrawal relinquishments that involve Coast Guard lighthouses and lighthouse tracts. With high value for migratory birds and special status species, inventory, monitoring, habitat protection, and interpretation through partnerships with local cooperators will be the activities involved in this project. (\$60,000)

Special Status Species

Protection and monitoring of nesting sea turtles and bald eagles on tracts in the western panhandle of Florida and habitat improvement for Florida black bear and several fire dependent special status species at Lathrop Bayou in the Florida panhandle. (\$13,000)

Environmental Education

Piney Woods Environmental Education Camp The annual even event sponsored by the Jackson District is a week-long environmental education camp in July at Crows Neck Environmental Education Center in northeast Mississippi. This is part of the school's summer enrichment program. Students from all over the country will participate in the camp. (\$8,000)

Watchable Wildlife

Cosponsorship of the Arkansas or the Louisiana wildlife viewing guide. Eastern States has intense involvement both on surface tracts and mineral estates in these states. The wildlife viewing project is both an economically and ecologically viable project. Eastern States will support the national initiative as much as possible. (\$10,000)

IDAHO FISH, WILDLIFE AND PLANT FACTS

Total state acreage (all ownerships)	52,900,446
Acres of BLM lands	11,864,254
Miles of fishable streams on BLM lands	8,639

Numbers of BLM:

Wildlife Biologists	24
Fisheries Biologists	9
(Fish and Wildlife Biologist)	1
Botanists	5
(Ecologists - at least 1/3 F/W)	13
Total Fish, Wildlife and Plant Staff	52

Number of:

Endangered species	13
Species proposed for listing as endangered	2
Threatened species	3
Species proposed for listing as threatened	0
Recovery Plans written (as team member)	4
Recovery Plans being implemented	10
ESA Consultations (formal and informal)	15
Conservation Agreements written	12*
Conservation Agreements being implemented	12

Number of projects since beginning of FY 1993:

Partners in Flight (nongame birds)	11
North American Waterfowl Management Plan	11
Threatened/Endangered Species, wildlife	38
Threatened/Endangered Species, fish/mussels/snails	22
Threatened/Endangered Species, plants	22

Percent of fishable streams inventoried since FY 1993

85

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	N/A
Mountain Sheep	100
Nongame Migratory Bird Habitat	20
Raptor Habitat Management	85
Upland Game Bird Habitat Management	80
Watchable Wildlife	90
Waterfowl Habitat Management	60
Fisheries Habitat Management	N/A
Anadromous Fish Habitat Management	100
Resident Fish Habitat Management	60
Desert Tortoise	N/A
Rare Plants and Natural Plant Communities	45
Special Status Fishes	55

Percent terrestrial acres with degraded habitats

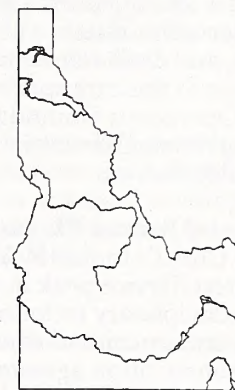
60

Percent stream miles with degraded habitats

75

*46+ presently being worked on

continues to be a key winter habitat for major populations of elk, mule deer, moose, and pronghorn antelope. Additional funding (LWCF, etc.) are needed to acquire some private lands in the elk migration routes to avoid displacement and depredation to nearby agricultural lands.

**Environmental Education/Watchable Wildlife**

Projects are relatively low cost, but very effective. We help Idaho Fish and Game Dept. sponsor programs such as "nose-to-nose" which gives the message to some 10,000 students each year. The Idaho Wildlife Viewing Guide was one of the first of the series and an active interagency/groups Watchable Wildlife Committee collects information for new and improved sites, has an outstanding newsletter, pushes a wildlife license plate, etc. We cosponsor a Watchable Wildlife coordinator with the Idaho Fish and Game Dept. and USFS in the Coeur d'Alene District and hope to get funding and FTE's to expand this effort in other parts of the State. ID BLM's environmental education program includes teacher education in programs such as Project WILD, Project Learning Tree, and participation in Firs, free fishing, and camping days.

Wetland/Waterfowl/Riparian

Projects include the Thousands Springs/Chilly Slough cooperative effort with Idaho Fish and Game Dept., Ducks Unlimited, The Nature Conservancy, private landowners, the National Fish and Wildlife Foundation, and possibly the Rocky Mountain Elk Foundation. This key area in a valley near Idaho's highest peak, Mt. Borah, also has values for Watchable Wildlife/environmental education, fish spawning and rearing, rare plants, and a reestablishment spot for trumpeter swans and maybe whooping cranes. Other key areas are the Ted Trueblood waterfowl area near the mid-Snake River, the Riverwood Ranch being acquired from the Farmers Home Administration (also high values as fisheries, riparian habitat, and environmental education), the South Fork of the Snake River (best known for bald eagle and peregrine falcon nesting and cutthroat trout habitat), and numerous smaller areas around the State. Idaho has recently joined the Western Joint Venture, and BLM biologists are heading up initial planning efforts on most of the key waterfowl/wetland districts.

Upland Game Birds

Cooperative research on upland gamebirds continues to be very important, especially as related to leks and nesting success, habitat protection, and competition. Key species being worked on, in cooperation with the Idaho Fish and Game Dept. and the University of Idaho, are Columbian sharp-tailed grouse, sage grouse, chukar partridges, and mountain quail. These studies are often in a regional or Columbia River Basin ecosystem context. Current funding is about \$16,000 for Columbian sharp-tailed grouse, \$24,900 for sage grouse, \$8,000 for chukar partridges, and \$28,200 for mountain quail. In addition, Idaho BLM does cooperative projects for upland gamebirds with Pheasants Forever and Quail Unlimited.

Threatened and Endangered Species

The Bonneville cutthroat trout is a candidate species being considered for listing as threatened or endangered by the Fish

Accomplishments:**Subsistence/Big Game**

Protection of big-game winter ranges remains an important priority, especially for elk and deer. Cooperative projects with groups and agencies such as the Rocky Mountain Elk Foundation and Idaho Fish and Game Dept. have produced numerous positive results. Projects have included prescribed burnings, water development, habitat acquisitions, road closures, seedings and vegetation manipulations, and environmental education. The Sand Creek area north of Idaho Falls

and Wildlife Service. The interagency team working with this species also included a grazing association. The habitat conservation assessment (HCA), the conservation strategy (CS), and draft conservation agreement (s) (CA) to remove threats to this rare species were developed and approved by the Operations Committee. Conservation agreements are being developed now in cooperation with the U.S. Fish and Wildlife Service.

Special Status Plants/Celebrating Wildflowers

The Christ's Indian Paintbrush is an alpine plant restricted to a Forest Service peak in southcentral Idaho. An interagency/interdisciplinary technical team developed a habitat conservation assessment and conservation strategy for the plant and the conservation agreement is nearing completion so that this species will not need to be listed.

Bats/Masters of the Night Skies

In Idaho, inventories and mist net trapping have been conducted, both by BLM biologists and cooperators, in numerous caves, mines, and canyon areas. Designs for protective gates which will stop human access, but will let bats enter have been obtained from Bat Conservation International. Coordination is ongoing with minerals and safety staffs to use gates rather than filling in abandoned mines used by bats. Of special interest are the Townsend's Big-eared Bat and the Spotted Bat, both of which are Category 2 species, and Conservation Agreements will be developed for these species.

Special Status Species

Challenge Cost Share projects in Idaho have dealt with general amphibian and reptile inventories, rare snake inventories, and Spotted Frog inventories. The latter 2 inventories will be used to develop Conservation Agreements to reduce threats and the need for federal listing. A cooperative study on the Coeur d'Alene Salamander is providing most of the information needed to develop a Cooperative Agreement for this sensitive species which has been proposed for listing.

Neotropical Birds/Partners in Flight

Numerous cooperative efforts with the Audubon Society, universities, etc. are underway with neotropical migratory birds and breeding bird census sites, especially in our Boise and Coeur d'Alene Districts. Bird lists, including neotropical birds, candidates and listed species, have been developed and are available for five of our six districts and one for that district is nearly ready for printing. Later, the lists will be redesigned for statewide and ecosystems within the Columbia River Basin. We cooperate with the Idaho Fish and Game Dept. on non-game bird education, bird boxes, and feeders for various publics. An Idaho Partners in Flight Working Group has been established and is active and three BLM specialists in Idaho are active in the working group.

Anadromous Fish

BLM personnel, especially those in the Salmon, Lower Snake River, and Clearwater River Drainages, have been heavily involved in inventory, monitoring, and identifying threats facing Snake River salmon and steelhead trout. While the salmon (Fall chinook, spring/summer chinook, and sockeye salmon) are listed as endangered, the wild steelhead have not been so far. Habitats and threats are nearly the same for both the salmon and steelhead.

Non-Game Species

Non-game species are often overlooked in work priorities, but their true importance in the ecosystems is often unknown.

Idaho BLM has used the Challenge Cost Share program as an excellent tool to fund small studies on such species, usually with universities. Examples are amphibian and reptile surveys, invertebrate inventories (such as land snails, tiger beetles, harvester ants), breeding birds, bats, forest carnivores, owls and hawks, vole food habitats, mountain lions, nesting shore birds, etc.). Amounts and cooperators vary yearly but costs are a small percent of our budget compared to the information returns. We often publish the results in our Idaho Technical Bulletin series which is widely distributed to agencies and libraries in the West.

Needs:

Spring/Summer Chinook Salmon

This work includes intensive inventories, monitoring, habitat improvement projects, riparian area enhancement, consultation with National Marine Fisheries Service, etc. Approximately \$2,500,000 is being spent in this interagency and interdisciplinary effort; unfortunately about half is tied to writing biological evaluations/assessments, consultations, and such activities which may not have direct impacts on the recovery of the endangered species.

Prelisting/Conservation Program

This high priority, interagency program is aimed at removing/reducing threats and the need for listing of nearly 135 candidate species of plants and animals in Idaho and adjacent habitats. The efforts include developing (1) habitat conservation assessments (HCAs) to determine past and present status of the species and their habitats, (2) conservation strategies (CSs) to identify threats and ways to remove or reduce them, and (3) conservation agreements (CAs) which are management actions to remove the threats so that they do not need to be listed under the Endangered Species Act. Under State lead, the effort includes BLM, the U.S. Fish and Wildlife Service (USFWS), Regions 1 and 4 of the U.S. Forest Service, the Idaho Department of Fish and Game (Idaho Fish and Game Dept.), and the Idaho Department of Parks and Recreation. Specialists from these and other State and Federal agencies, private groups, consultants, and individuals participate in the technical teams. Seven new HCAs/CSs have been approved and 39+ are under development. The CAs are being developed by agencies as National Environmental Policy Act requirements are met. Idaho BLM presently uses about \$300,000 in Challenge Cost Share funds to gain information about candidate and sensitive species. In addition, time and travel of key BLM personnel in the Operations Committee, the Technical Working Group, individual species technical teams, and other involvement by specialists and managers adds up to about \$125,000. This cost is expected to grow as the program increases intensity to meet timetables of the Eastside Ecosystem Management Program, the Upper Columbia River Basin Environmental Impact Statement, and the USFWS lawsuit concerning candidate species.

Peregrine falcon recovery

Idaho BLM handles funding of recovery efforts at The Peregrine Fund, Inc., for \$25,000 per year. BLM also is involved in interagency peregrine falcon inventory and monitoring efforts for about \$5,000 per year, and various inventory/monitoring, coordination, and environmental education efforts at approximately \$6,000 per year.

Bald eagle recovery

Efforts include inventory, monitoring, and habitat protection at the South Fork of the Snake River and several other nesting and roost habitats, statewide winter inventories, and

other habitat and environmental education/watchable wildlife projects. (\$34,000)

Wildlife isolated tracts

This cooperative program with Idaho Fish and Game Dept. is to protect and enhance isolated tracts of BLM within large tracts of private agricultural developments to provide food, nesting habitat, and winter cover for upland game birds, especially pheasants. BLM provides a minimum of \$32,000 to this important program.

Fall chinook salmon

Recovery efforts in the Lower Snake River area include inventory, monitoring, and consultation work. (\$14,000)

Macfarlanes four-o'clock

Habitat protection, inventory/monitoring, and transplanting of Idaho's only endangered plant costs BLM about \$8,500 per year. Due to BLM's efforts, the species has been slated for downlisting to threatened.

Sockeye salmon recovery

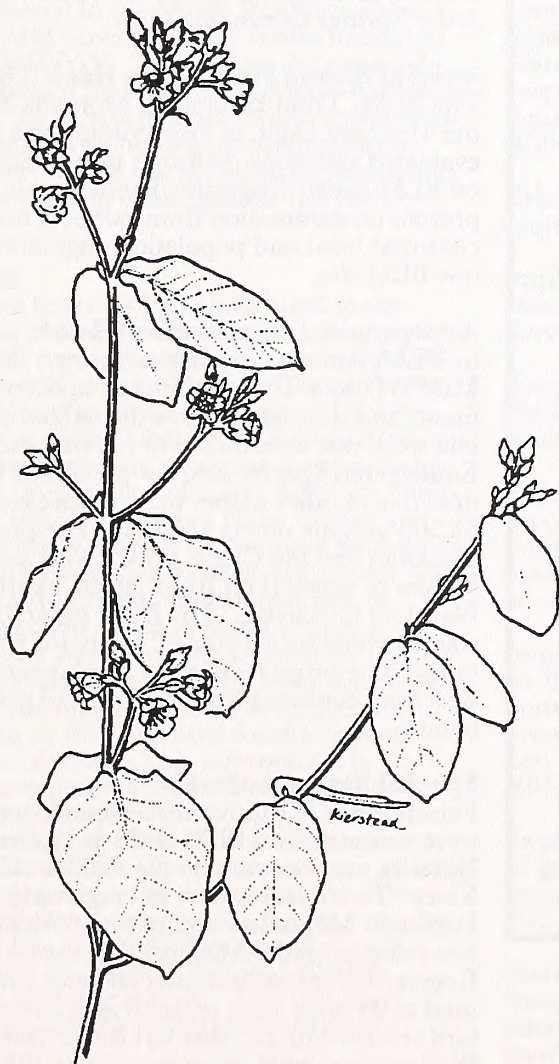
Although this species mainly only travels through BLM portions of the main Snake and Salmon Rivers, BLM spends about \$8,000 a year in monitoring and consultation.

Gray wolf recovery

Idaho BLM has long been involved with gray wolf recovery efforts through interagency steering committees, information and education work, and participation in technical working groups. Reintroductions of experimental populations are scheduled for the immediate future. (\$3,600)

Bald Eagle Monitoring

Purchase transmitters for Bald Eagles to determine source of contaminants. (\$20,000)



Apocynum androsaemifolium

MONTANA FISH, WILDLIFE AND PLANT FACTS

Total state acreage (all ownerships): 93,271,040
 Acres of BLM lands: 8,077,253
 Miles of fishable streams on BLM lands: 2,500

Number of BLM:

Wildlife Biologists 16
 Fisheries Biologists 1
 Botanists 1
 Total Fish, Wildlife and Plant Staff 18

Number of:

Endangered species 9
 Species proposed for listing as endangered 0
 Threatened species 2
 Species proposed for listing as threatened 0
 Recovery Plans written (as team member) 6
 Recovery Plans being implemented 14
 ESA Consultations (formal and informal) 0
 Conservation Agreements written 1 draft
 Conservation Agreements being implemented 0

Number of projects since beginning of FY 1993:

Partners In Flight (nongame birds) 8
 North American Waterfowl Management Plan 35
 Threatened/Endangered Species, wildlife 10
 Threatened/Endangered Species, fish/mussels/snails 1
 Threatened/Endangered Species, plants 0

Percent of fishable streams inventoried for any species or stock since the beginning of FY 1993:

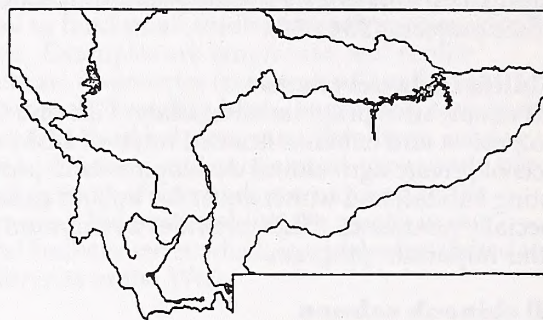
1

Percent of species with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management 0
 Mountain Sheep 80
 Nongame Migratory Bird Habitat 20
 Raptor Habitat Management 20
 Upland Game Bird Habitat Management 80
 Watchable Wildlife 50
 Waterfowl Habitat Management 90
 Fisheries Habitat Management 1
 Anadromous Fish Habitat Management N/A
 Resident Fish Habitat Management 1
 Desert Tortoise N/A
 Rare Plants and Natural Plant Communities 20
 Special Status Fishes 1

Percent terrestrial acres with degraded habitats: 60
 Percent stream miles with degraded habitats: unknown

Pothole Joint Venture completed the restoration of 38 reservoirs which created 102 surface acres waterfowl habitat and enhanced 58,000 acres



of associated uplands that will be used by waterfowl as nesting and brood rearing. This is the first time Montana Duck Stamp funds have been used on a BLM cooperative project.

Special Status Plants

Over 348,000 acres were inventoried for 34 sensitive plant species in two districts and four resource areas. The BLM provided \$40,000 which was matched by the Montana Natural Heritage Program, Montana State University, and Alder Springs Consulting Firm.

Special Status Fish, Bring Back The Natives

The BLM, Trout Unlimited, Montana State University, and the Montana Dept. of Fish Wildlife and Parks (MDFWP) evaluated westslope cutthroat trout areas, two of which were on BLM lands. Migration barriers were constructed to prevent contamination from rainbow trout to westslope cutthroat trout and population augmentation occurred on one BLM site.

A cooperative bull trout radio telemetry study was undertaken by BLM, American Fisheries Society, Forest Service, MDFWP, and Trout Unlimited to determine habitat requirements and ways to improve the habitat and population. The bull trout was determined to warrant listing under the Endangered Species Act, but precluded from listing at this time due to other higher priority species. The BLM provided \$5,500 and the others \$61,000. The project was on the Blackfoot and the Clarks Fork Rivers and covered 282 miles, 5 miles of which is on BLM lands. Work continued on the Blackfoot Challenge. The BLM spent \$17,000 and \$90,00 was provided by Missoula County for road resurfacing of 4½ miles. The project will reduce sedimentation into elk creek, a westslope cutthroat trout fishery, and potential bull trout habitat.

Special Status Animals

Four releases of captive-reared endangered peregrine falcons were completed on BLM lands at Holter Lake, Devils Kitchen, and two sites on the Wild and Scenic Missouri River. Two releases were in cooperation with The Peregrine Fund and Montana Dept. of Fish Wildlife and Parks and the two releases on the Missouri River were provided by Ralph Rogers, a Nationally known falconer who lives in the area. A total of 28 birds were released and 26 fledged. A 2-year old bird returned to the Missouri River from a previous release. Wild nesting could occur as early as 1995. The BLM funded \$30,000 and the cooperators provided \$40,000. In 1980, there were no known wild nesting peregrine falcons in Montana. In 1994, there were 16-18 wild pairs known to have nested, all a result of the release program of which BLM has been a major participant. Over 300 miles of the Yellowstone River was inventoried for nesting peregrine falcons and hawk (introduction) sites were identified. The BLM land involved was in two districts and four resource

Accomplishments:

Watchable Wildlife

Montana Power Company, the Helena Chamber of Commerce, and the Montana Department of Fish Wildlife and Parks combined efforts and developed a public viewing and education center for the endangered Bald Eagle below the Canyon Ferry dam.

Waterfowl and Wetland Habitat Management

BLM's Phillips Resource Area Office, Montana Department of Fish, Wildlife and Parks, Ducks Unlimited, and the Prairie

areas. Additional releases will occur on the Yellowstone River and other areas in eastern Montana in FY 1995 and beyond.

Fauna West, a private consulting firm provided \$8,000, MDFWP \$2,000, and BLM \$5,000 for a statewide mountain plover habitat identification and description. A final publication of the habitat requirements of the bird will be published in FY 1995. The mountain plover is a candidate species under the Endangered Species Act and the bird will likely be listed as threatened in the near future.

More than 180 miles of habitat on the Yellowstone River, Clarks Fork of the Yellowstone River, Powder River, and 175 miles on the Clarks Fork River and adjacent streams in the Columbia River drainage were monitored for nesting success of the endangered bald eagle. In addition, 18 bald eagle nests were monitored for nesting success and the 175 miles examined for new nesting efforts. New nest attempts, nesting activity, and fledgling success were also documented to provide data necessary to remove the bird from the endangered species list. These efforts contributed to the birds recent downlisting from endangered to threatened.

Base line data was gathered in the Dillon Resource Area, Butte District, on 125,000 acres of pygmy rabbit habitat in cooperation with the MDFWP. The project delineated the distribution and determined that the most suitable habitat is currently unoccupied. BLM will examine what is needed to prevent the pygmy rabbit from becoming endangered or threatened and decisions will be made and implemented in the upcoming resource management plan for the Dillon Resource Area.

Black-Footed Ferret

A full-time black-footed ferret biologist was hired in the Phillips Resource Area. All of the necessary studies, environmental analyses, federal register notices and other administrative tasks have been completed. The black-footed ferret introduction was scheduled to occur on October 15, 1994. The introduction will be on the Charles M. Russell National Wildlife Refuge and the ferrets are expected to immediately occupy adjacent BLM prairie dog colonies. All of the camp facilities and logistical support has been taken care of and everything is ready for the release. The National Biological Service will be conducting research to determine better ways to introduce the ferret. Additional information will be gathered on habitat selection to aid in identification of introduction sites in other states and the survival and breeding success of individual ferrets. The latter may be one of the most important factors in the effort to recover the almost extinct mammal as the gene pool for the captive population has only 5-9 donors. This information is imperative to ensure maximum genetic diversity in any populations that are established in the future. (Note: The introduction has occurred, FY 1995. Forty ferrets were released, but coyotes have killed 19 and six more are missing. Coyote control is a major subject of discussion. All other releases have controlled coyotes to give the ferrets a chance of survival for the first few days. To date, the Fish and Wildlife Service, Charles M. Russell National Wildlife Refuge, will not allow predator control. This will likely change or the release site will be moved to BLM land.)

Raptor Habitat Management

Over 64,000 acres of raptor habitat were monitored in the Dillon resource area, Montana. The data provides ongoing trend data which has been gathered since 1979.

Big Game Habitat Management

The BLM's Headwaters Resource Area, working with the Montana Department of Fish, Wildlife and Parks completed

the Sleeping Giant Bighorn Sheep Reintroduction Habitat Management Plan. Since 1993, 68 Rocky Mountain bighorns have been released in the Sleeping Giant Wilderness Study Area. Monitoring of the released animals indicates that the bighorns are reproducing successfully. The Sleeping Giant Wilderness Study Area also supports populations of mountain goats, elk, and mule deer.

Needs:

Continue the reintroduction of black-footed ferrets into historic habitat on BLM lands in central Montana and support ongoing monitoring and inventory efforts for existing releases and future releases. (\$40,000)

Implement several riparian and wetland enhancement projects such as the cooperative wetlands development in cooperation with the Bureau of Reclamation at Anita Reservoir. (\$150,000)

Continue evaluation and assessments of riparian habitats statewide to determine existing and potential conditions under various management alternatives. (\$250,000)

Continue to support implementation of the Prairie Pothole Joint Venture under the auspices of the North American Waterfowl Management Plan on BLM lands. BLM has currently identified opportunities for enhancement of several thousand acres of existing wetland habitats on public lands. (\$500,000)

Expand BLM's contributions of habitat enhancement projects to restore the Blackfoot River. (\$220,000)

Implement watershed assessments in western Montana associated with implementation of the joint BLM-Forest Service PacFish initiative. (\$50,000)

Support development and implementation of 3 additional Peregrine falcon release sites in eastern Montana on BLM lands. (\$40,000)

Expand BLM's contribution towards implementation of the successful Elkhorn Mountain cooperative management area. Funds are needed to restoration of riparian and wetland habitats, big game habitat improvement and expand recreational opportunities. (\$100,000)

Implement monitoring of 6 known populations of rare plants on BLM lands and expand surveys for additional populations. In addition, support studies on the life history of several known species in order to monitor long-term population health and develop improve management strategies. (\$95,000)

Expand inventory and monitoring efforts for several species of game and nongame bird populations and habitat for such species as Sage and sharp-tailed grouse, and Baird's sparrow. (\$75,000)

Staffing: Managing public lands has never been more complex or challenging. BLM's expanding knowledge of science and natural resource management techniques combined with increasing population pressures and BLM's goal of developing long term solutions that involve all stakeholders has only made the challenges that much greater. Montana BLM is severely understaffed in several key science areas such as hydrologists, riparian-wetland biologists, fishery biologists and engineers. The State has identified a need for 25 additional full time specialists to provide input and expertise at resolving resource management issues. (\$1,375,000/25 FTE's)

FISH, WILDLIFE AND PLANT FACTS - NEW MEXICO, OKLAHOMA, KANSAS, TEXAS

Total State Acreage:

New Mexico	77,766,400
Oklahoma	44,087,680
Kansas	52,510,720
Texas	168,217,600

Acres of BLM lands:

New Mexico	12,814,376
Oklahoma	2,432
Kansas	43
Texas	0

Miles of fishable streams on BLM lands: 283

Number of BLM:

Wildlife Biologists	24
Fisheries Biologists	0
Botanists	1
Total Fish, Wildlife and Plant Staff	25

Number of:

Endangered Species	18
Species proposed for listing as endangered	3
Threatened Species	9
Species proposed for listing as Threatened	0
Recovery Plans written	0
Recovery Plans being implemented	8
ESA formal & informal consultations	90
Conservation Agreements written	0
Conservation Agreements being implemented	0

Since FY 1993 number of projects primarily for:

Partners In Flight	65
North American Waterfowl Management Plan	3
Threatened/Endangered Species, wildlife	23
Threatened/Endangered Species, fish	2
Threatened/Endangered Species, plants	15

Percent of fishable streams inventoried since FY 1993: 5

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	100
Partners in Flight (nongame birds)	8
Raptor Habitat Management	12
Upland Game Bird Habitat Management	9
Watchable Wildlife	1
Waterfowl Habitat Management	0
Fisheries Habitat Management	0
Anadromous Fish Habitat Management	0
Resident fish Habitat Management	10
Rare Plants and Natural Plant Communities	5
Special Status Fishes	0

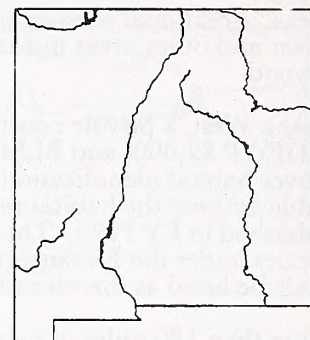
Percent terrestrial acres with degraded habitats: unknown

Percent stream miles with degraded habitats: 70

Accomplishments:

Sikes Act Projects

Numerous Sikes Act habitat stamp projects were worked on in 1994 in the Albuquerque District. Two burns, Azabache and Pot Mtn., and several fences were completed in 1994. Many other projects are in various stages of development. Approximately 24 Workmonths (\$84,000-BLM funds, and \$150,000 Sikes Act Funds) were targeted for FY 1994 projects.



Implementation of Sikes Act program projects in the Roswell District resulted in construction of wildlife water units, riparian fencing, big game aerial surveys, and project maintenance. BLM FY 1994 costs were approximately \$11,000, while the New Mexico Dept. of Game and Fish contributed \$35,000 through the Sikes Act program.

Special Status Animals

Three areas comprising 400 acres, the Rio Grande River, Bluewater Creek, and Upper Rio Puerco, were inventoried for the Southwestern willow flycatcher in 1994. Volunteers as well as BLM employees outside of the biological field participated. Work-month and vehicle costs (\$400) were the only costs associated with these surveys. Flycatchers were located along the Rio Grande River, but none were found at the other two locations.

In the Roswell District cooperative studies with New Mexico Game and Fish Department and oil and gas industry on the State endangered Dunes sagebrush lizard. Studies include determination of occupied range of the lizard and impacts to their habitat from shinnery oak herbicide treatments.

Challenge Cost Share studies with New Mexico Dept. of Game and Fish and The Nature Conservancy were continued in the Rosewell District. Species studied were Montezuma Quail, Kuenzler hedgehog cactus, and two State endangered species. BLM FY 1994 costs were approximately \$18,000.

Big Game- The largest antelope reintroduction in New Mexico history occurred in 1994, with the Albuquerque District participating with two other BLM districts and the New Mexico Department of Game and Fish. Approximately 300 animals of the 1,100 animals captured were reintroduced into three areas of the Rio Puerco Resource Area. The District supported the project with approximately 3-Workmonths (\$10,500) and \$5,000 dollars for the capture costs.

Raptor Habitat Management

Three areas in the Albuquerque District (Rio Grande, San Luis Raptor Area, El Malpais National Conservation Area) were inventoried (Approximately 2,000 acres) for raptors, including monitoring of two peregrine falcon (Threatened and Endangered species) nest sites.

Special Status Fish

Although there are significant special status fish resources, BLM does not employ a single fisheries biologist in New Mexico and there are no accomplishments to report.

Needs:

The Albuquerque District is in very good shape for supporting the wildlife program, due in large part to the Sikes Act Program and the support of additional funding (Challenge Cost Share) available. In fact the district is close to capacity at what it can accomplish with limited currently available personnel. The Sikes Act Program and Challenge Cost Share projects, in addition to the day to day operation of the wildlife program, will keep staff biologist busy in FY 1995. The only way that additional work could get done in the wildlife program is if BLM could hire temporaries or additional FTE. The projects that could be undertaken if additional personnel were available include special status species plant and animal surveys/inventories. The district presently lacks a good handle on most of the special status plant and animal species in the district which will most likely lead to future problems that could be prevented. The District needs at least two additional FTE's to allow a botanist and a threatened/endangered species specialist in the District or State Office to work on-the-ground to accomplish these surveys.

Upland Game Birds

Support for New Mexico State University quail studies. (\$5,000)

Neotropical Birds

Survey in Hidalgo and Grant Counties in partnership with New Mexico Game and Fish Department. (\$10,000)

Raptor Habitat Management

Inventory with Hawks Aloft. (\$20,000)

Spotted Owl/Goshawk inventory. (1 FTE)

Special Status Plants

District-wide plant inventory, New Mexico Heritage Program, New Mexico University. (\$50,000)

Research

Continuation of National Biological Service Playa Lake research project. Project is scheduled for completion during FY 1996. (\$50,000)

Continuation of Challenge Cost Share studies in conjunction with the New Mexico Dept. of Game and Fish and The Nature Conservancy. The studies are focused on the impacts of oil and gas on the State endangered Dunes sagebrush lizard and habitat impacts on the Federal listed Kuenzler cactus. (\$50,000)

Sikes Act

BLM in New Mexico needs an additional field person to assist in Sikes Act funded projects. (1 FTE)

NEVADA FISH, WILDLIFE AND PLANT FACTS

Total State Acreage:	70,332,800
Acres of BLM lands:	47,955,988
Miles of fishable streams on BLM lands:	2,463

Number of BLM:

Wildlife Biologists	20
Fisheries Biologists	2.5
Botanists	1
Total Fish, Wildlife and Plant Staff	23.5

Number of:

Endangered Species	15
Species proposed for listing as endangered	0
Threatened Species	14
Species proposed for listing as Threatened	2
Recovery Plans written	3
Recovery Plans being implemented	6
ESA formal & informal consultations	200
Conservation Agreements written	3
Conservation Agreements being implemented	0

Since FY 1993 number of projects primarily for:

Partners In Flight	2
North American Waterfowl Management Plan	5
Threatened/Endangered Species, wildlife	100
Threatened/Endangered Species, fish	50
Threatened/Endangered Species, plants	10

Percent of fishable streams inventoried since FY 1993:

20

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	100
Mountain Sheep	100
Partners in Flight (nongame birds)	10
Raptor Habitat Management	10
Upland Game Bird Habitat Management	10
Watchable Wildlife	33
Waterfowl Habitat Management	10
Fisheries Habitat Management	15
Anadromous Fish Habitat Management	N/A
Resident fish Habitat Management	10
Rare Plants and Natural Plant Communities	15
Special Status Fishes	10

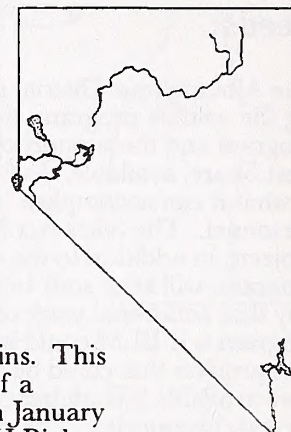
Percent terrestrial acres with degraded habitats:

90

Percent stream miles with degraded habitats:

70

meadow habitat and 250 miles of stream are expected to improve as a result of the management changes being implemented.



In January 1994, the Winnemucca District, Nevada Division of Wildlife and the Oregon Department of Fish and Wildlife released 20 California big-horns captured in Hart Mountain, Oregon, into the Montana mountains. This release was the first augmentation of a population that was reestablished in January 1991 under the Montana/Double H Bighorn Sheep Habitat Management Plan.

The Winnemucca District, in cooperation with the Nevada Division of Wildlife, captured 18 California bighorn from 3 existing, reestablished populations in the Paradise-Denio Resource Area, and transplanted them to the Calico Mountains in the Sonoma-Gerlach Resource Area. This augmentation of the population was completed as partial implementation of the Fox Mountain Habitat Management Plan.

Riparian Area Management

Within the BLM's Elko Resource Area, the Maggie Creek Watershed Restoration Project has created a partnership among Newmont Gold Co., the Maggie Creek Ranch and BLM to restore and enhance more than 100 miles of stream and wetland habitat along Maggie Creek and its tributaries. Fencing, livestock grazing management, conservation easements, and other measures are being used.

Raptor Habitat Management

The Tonopah Resource Area, inventoried 400,000 acres of Ferruginous Hawk habitat, and 5,000 acres of Northern Goshawk habitat. An additional 486,000 acres were surveyed to determine other raptor nesting activity. Over 70 existing and 45 new nest sites discovered.

The annual raptor count of the largest known fall migration of birds of prey in the inland western U.S. was completed along the Goshute Mountains. The count is conducted by Hawkwatch International in cooperation with Elko District, Nevada. This year's effort was completed with birding enthusiasts who contributed almost 10,000 volunteer hours towards the eleven-week count and bird banding project.

Threatened and Endangered Species

The Ely District has taken the lead in Nevada in the inventory of abandoned mines for bats. Working through Bat Conservation International, local and national volunteers spent 220 hours inspecting 31 of 77 mines within the district that were scheduled for closure due to safety considerations. Twenty nine percent of the mines contained bats and another 45 percent were rated as suitable. Volunteers also monitored the 60,000 Mexican free-tail bat population at Rose Guano Cave. This site was designated as a Historic Area in 1970 due to past mining for guano fertilizer.

Needs:

Implementation of the Desert Tortoise Recovery Plan in cooperation with Clark County, and the Nevada Habitat Conservation Plan, National Park Service, Nevada Division

Accomplishments:**Big Game Habitat Management**

The BLM, U.S. Forest Service, Nevada Division of Wildlife, Rocky Mountain Elk Foundation, National Fish and Wildlife Foundation, and private land owners are implementing one of seven Seeking Common Ground pilot projects within the Bruneau River watershed in an effort to restore riparian and upland habitats.

Nearly 50% of the BLM grazing allotments statewide have had varying levels of improved grazing management implemented. Wildlife and fish habitat conditions on approximately 6,500,000 acres of uplands 3,000 acres of riparian and

of Wildlife and The Nature Conservancy. Implementation includes inventory of special status plants and animals including all candidate species. Implementation also includes actions designed to recover the listed Desert tortoise and several sensitive species. (\$400,000)

Accelerate development and implement six new Conservation Agreements (CA's) for several candidate plant species and the Redband trout statewide. Conservation Agreements are designed to protect populations and habitat of species that are at risk. These efforts, if implemented, will prevent the need to list species under the Endangered Species Act. Species that are targeted for CA's include the California Bear Poppy, Blue Diamond Cholla, Soldier Meadows Cinquefoil, Williams Combleaf, Redband trout, and several plants associated with Spring Mountain. (\$150,000)

Nevada BLM is a pilot state for implementation of the BLM's Special Status Species data management system. Funding is needed to collect data and incorporate into the BLM's data system from several cooperators (i.e., Nevada Department of Wildlife, The Nature Conservancy, Nevada Biodiversity Initiative, and the Nevada Natural Heritage Program). Funding and personnel shortages require contracting many tasks associated with this effort. (\$100,000)

Under *Bring Back The Natives*, restore 180 miles of stream along Nevada's Mary's River for riparian habitat, Lahontan cutthroat trout, redband trout, 11 candidate species and neotropical migrants. (\$350,000)

Implement riparian habitat projects along the Bruneau and Quinn Rivers in Nevada, a national wildlife/livestock

demonstration area, being managed Lahontan for cutthroat and redband trout under *Bring Back The Natives*. (\$400,000)

Complete habitat improvement projects to benefit elk, mule deer, pronghorn and bighorn sheep in Nevada. (\$150,000)

Increase big game inventory and monitoring to improve ecosystem management by reducing conflicts between big game and livestock in Nevada. (\$300,000)

Construct the Lemmon Valley Marsh interpretive trail and fencing, a challenge cost share project with Audubon Society, Nevada Air National Guard, Nevada Division Of Wildlife and other local groups. (\$40,000)

Improve access, install interpretive facilities and increase monitoring in Nevada at Marys River, Bruneau River, and Quinn River wildlife viewing locations. (\$90,000)

Cooperate with Nevada Department of Wildlife and California Department of Fish and Game to reestablish Columbian Sharp-tailed Grouse, a candidate species which has been extirpated from both states, to the Elko and Susanville Districts, respectively. (\$45,000)

Improve riparian habitat to support mountain quail, a candidate species, in Carson City, and Battle Mountain Districts (\$45,000)

Increase management actions to improve meadow habitats to benefit sage grouse in Nevada. (\$120,000)

BLM ACCOMPLISHMENTS AND NEEDS BY STATE OREGON/WASHINGTON

OREGON AND WASHINGTON FISH, WILDLIFE AND PLANT FACTS

Total state acreage:

Oregon	61,598,720
Washington	42,693,760

Acres of BLM lands

Oregon	15,722,868
Washington	351,753

Miles of fishable streams on BLM lands

Number of:

Wildlife Biologists	65.5
Fisheries Biologists	32.5
Botanists	14
Total Fish, Wildlife and Plant Staff	112

Number of BLM:

Endangered species	26
Species proposed for listing as endangered	0
Threatened species	21
Species proposed for listing as threatened	1
Recovery Plans written (as team member)	1
Recovery Plans being implemented	25
ESA Consultations (formal and informal)	86
Conservation Agreements written	5
Conservation Agreements being implemented	5

Number of projects since the beginning of FY 1993:

Partners In Flight (nongame birds)	46
North American Waterfowl Management Plan	20
Threatened/Endangered Species, wildlife	61
Threatened/Endangered Species, fish/mussels/snails	26
Threatened/Endangered Species, plants	35

Percent of fishable streams inventoried since FY 1993:

Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	0
Mountain Sheep	50
Nongame Migratory Bird Habitat	<5
Raptor Habitat Management	
N. Spotted Owl, Bald Eagle, and Peregrine Falcon	100
All other raptors	< 5
Upland Game Bird Habitat Management	10
Watchable Wildlife	50
Waterfowl Habitat Management	10
Fisheries Habitat Management	25
Anadromous Fish Habitat Management	33
Resident Fish Habitat Management	15
Rare Plants and Natural Plant Communities	<2
Special Status Fishes	15

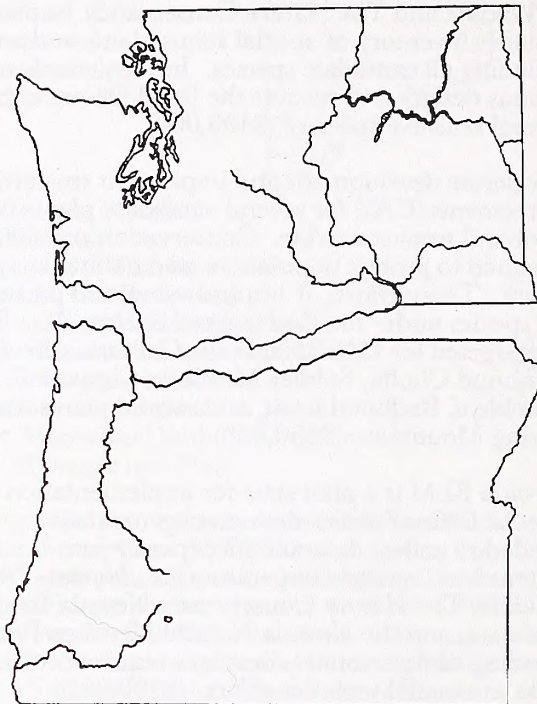
Percent terrestrial acres with degraded habitats:

Percent stream miles with degraded habitats:

Bat surveys were initiated using the Anabat II monitoring device in Oregon.

BLM developed a method to identify local bats using bat detectors and developed a catalog of calls for future reference. Protective gates were installed on 4 bat caves and a

cooperative agreement to gate and maintain caves used by bats was started.



Roseburg Bat Inventory: An inventory for species occurrence, distribution and relative abundance was completed in cooperation with Oregon Dept. of Fish & Wildlife and Southern Oregon State College. A total of 44 ponds and bridges located across the District were mist netted.

Surveyor Mountain Study. Completed third year of a density study of goshawks and inventory of amphibians. Partners included USDA Forest Service, Weyerhaeuser Co., Pacific Power Utility Co., S. Oregon State College, Washington Park Zoo.

Roseburg Amphibian and Reptile Inventory. The District cooperated with the National Biological Survey and Oregon Dept. of Fish & Wildlife to survey upland and aquatic sites across the District for occurrence and relative abundance of amphibians and reptiles. A total of 186 terrestrial and aquatic sites were surveyed.

Habitat improvements were completed on 15 mile Creek in Lakeview District including Warner sucker habitat improvements.

Maintained fence enclosures to protect fish habitat. Conducted repairs on sites throughout the entire Lakeview district.

Warner Wetlands Habitat Restoration. BLM conducted blasting, diking, burning in Lakeview District. Inventories were completed for Snowy Plover on Albert Lake.

Inventoried 8,000 acres of suitable habitat for marbled murrelet and monitored two occupied sites. One nest was located and monitored through successful fledging.

The Roseburg District supported three stream inventory crews in support of the Umpqua Basin Restoration Initiative. A total of 270 miles of stream have been surveyed with final reports summarizing stream condition, problems and restoration potential to follow.

Accomplishments:

Vegetation inventories were completed on 6,600 acres of the North Bank Habitat Management Area in Roseburg District. Noxious weeds were controlled utilizing biological agents.

Needs:

The President's Forest Plan calls for intensive inventories for several sensitive species associated with late-successional habitats. These "Survey and Manage" species will require extensive training and widespread inventories which are currently not funded.

In the Lakeview District, underburns and juniper thinning land treatments are needed to improve ecosystem management for wildlife. The Warner Wetlands project needs to improve the irrigation pump for wetland maintenance and improvement. (\$15,000)

Special status species and habitat management, monitoring, inventory and consultations in the Lakeview District are needed to prevent further listings, improve habitat, and fulfill activity plan priorities. (\$80,000)

Addition survey and life history information is needed for the flammulated owl, ferruginous hawk, great gray owl, merlin, pygmy owl, and burrowing owl.

Raptor Habitat Management

The Bureau of Land Management (BLM), United States Forest Service (USFS), and United States Fish and Wildlife Service (USFWS) will jointly develop a set of management guidelines for all birds of prey on public lands, including preparation of long-term population status monitoring plans for Oregon/Washington raptors. A survey of northern goshawk habitat is necessary in order to complete a management plan for the species regardless of land ownership. Addition survey and life history information is needed for the flammulated owl, ferruginous hawk, great gray owl, merlin, pygmy owl, and burrowing owl. Preparation of long-term population status monitoring plans for Oregon/Washington raptors. (\$750,000)

Big Game Habitat Management

The Blue Mountain Elk Initiative continues to be a major focus between BLM and USFS as it is driven by landowner concern over increasing elk numbers. Project work continues to be necessary for the California Bighorn Sheep in Burns District Office. Juniper control is necessary throughout central Oregon to benefit not only big game, but other species. (\$759,000)

An ecosystem oriented research approach (including BLM, National Biological Service (NBS) and USFWS) is proposed for evaluating the restoration potential of degraded rangelands in the Great Basin. The exclusion of livestock grazing from the Hart and Sheldon National Wildlife Refuges provides a rare opportunity to compare against livestock grazed areas on BLM administered public lands (this research project could easily cost \$1,000,000 annually for 10-20 years). This project will also investigate the impact of livestock grazing on non-game birds and other components of the ecosystem.

Upland Game Birds

The eastern subspecies of the Mountain Quail has declined significantly. Additional funds are necessary to continue research on this subspecies. The BLM continues to support the reintroduction of Columbian Sharp-tailed Grouse into Oregon where they were extirpated. The species is still present in Washington but in very limited numbers. (\$242,000)

Watchable Wildlife

Oregon/Washington continue to develop and interpret 10 Watchable Wildlife sites annually. The BLM is coordinating with the USFS and USFWS to develop and interagency "Watchable" ecosystem oriented site identification, development, and interpretation in addition to public outreach. The primary focus in environmental education is focused on the Watchable Wildlife and Neotropical Migratory bird issues. Additional funds are necessary for displays and brochures for public consumption. Neotropical migratory bird information is being translated into Spanish for migrant workers as well as Spanish speaking citizens. (\$100,000)

The BLM needs to continue to fund the avian field monitoring training each year until a sufficient number of biologists are proficient in bird visual and song identification and point count technique. (\$20,000)

Neotropical Birds

The Oregon/Washington interagency "Partners in Flight facilitator" position needs continued funding of \$30,000 annually.

The Monitoring Strategy Plan for Oregon/Washington development is in need of annual funding of \$15,000 until it is completed. This is for plan development only, not the actual monitoring.

Monitoring in riparian zones in eastern Oregon/Washington was begun in 1994 and needs to be continued to adequately assess population status and impacts of management for the 450 birds that occur in Oregon/Washington. (\$1,200,000)

Waterfowl and Wetland Habitat Management

Extensive work is needed at not only Warner Wetlands, but also Wood River Ranch on Klamath Lake the John Day River (Prineville), and the Fish Trap Lake, Lake Creek, and Crab Creek wetlands (Spokane). Oregon/Washington continues to support facilitator positions for the joint ventures of the North American Waterfowl Plan for Oregon and Washington. (\$360,000)

Special Status Fish (Total need: \$456,000)

Habitat and Fish utilization inventories - sensitive fish species within the District Boundaries include steelhead, coho, chinook and searun cutthroat, all currently in status review; coho is expected to be proposed for listing. The Umpqua cutthroat, searun and resident, found in the District, are currently proposed for listing as an endangered species. Bull trout, found eligible for listing, but not listed, are being reconsidered for listing. Funds would support inventories (\$236,000); Little is known of other fish species. Recent work confirms that fish communities in the Umpqua and Siuslaw are unique. Essentially nothing is known of their macroinvertebrate communities. Very little is known of these fish and invertebrate communities, their condition, nor the impact of management activities. Funds would support the following inventories, monitoring and data management; Macroinvertebrate, Siuslaw basin profile and handbook - (\$50,000); Siuslaw non-game fish profile (\$50,000); Riparian-aquatic habitat relationships (\$100,000); Data management work to make data GIS-compatible (\$120,000).

BLM ACCOMPLISHMENTS AND NEEDS BY STATE OREGON/WASHINGTON

Habitat Enhancement in the Eugene District include density management, prescribed burning, noxious weed control for three candidate plant species and one Endangered plant species are needed on approximately 200 acres. Many other restoration projects are underway; none of the funding is allocated to inventory, monitoring, or evaluation of these projects and their impacts not only on anadromous salmonids, but other species as well. Inventory of two watersheds and monitoring of six candidate species for Eugene District Special Status Plant species at approximately 20,000 acres per watershed is also needed. Funds would support evaluation of restoration projects. (\$255,000)

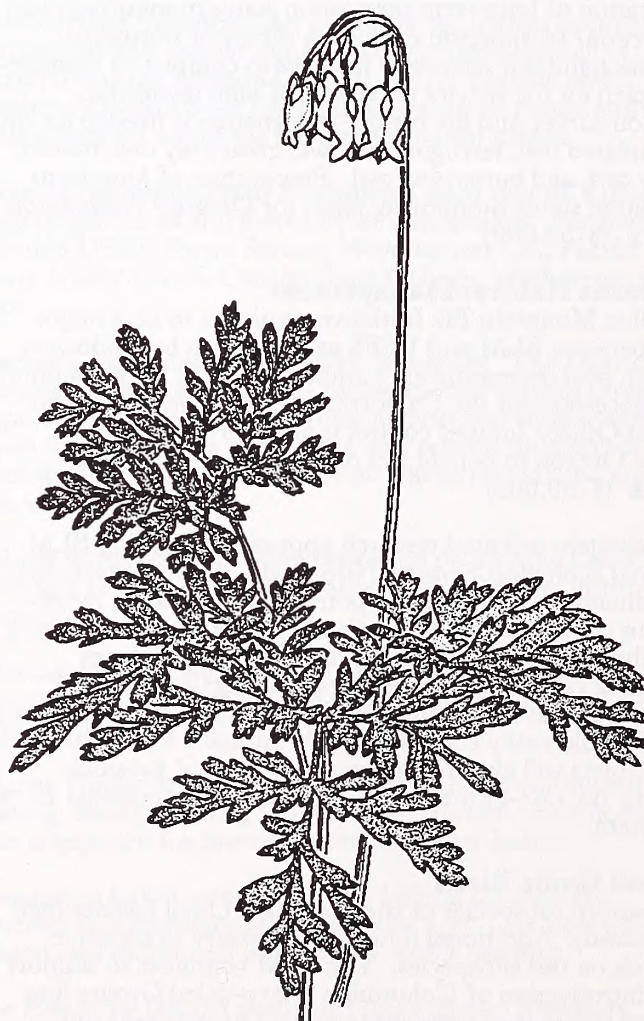
Special Status Plants

Inventory/Monitoring. Funds would support inventory and monitoring for 600 Special Status Plants species to support watershed analysis and ecosystem management on 520,000 acres of BLM lands in Western and Eastern Oregon.

Plan Development. Funds would support the development of 27 Conservation Strategies/Conservation Agreements to prevent the listing of plant species as Threatened or Endangered. (\$162,000)

Watchable Wildflowers Programs/Public Outreach. Development of interpretive brochures for multiple trails promoting Native Plant and Special Status Plant Management; Site development including Watchable Wildflower trails; National Historical Oregon Trail Interpretive Center Native Plant Demonstration Garden; Educational materials including Watchable Wildflower Viewing Guide for Oregon and Washington. (\$110,000)

Estimates are expected to be similar to the Forest Plan/Survey and Manage effort. Funds for the Columbia Basin Project would support the development and implementation of survey protocols for vascular and non-vascular plant species. (\$2,000,000)



Dicentra formosa

UTAH FISH, WILDLIFE AND PLANT FACTS

Total state acreage:	54,346,440
Acres of BLM lands:	22,147,772
Miles of fishable streams on BLM lands:	695

Number of BLM:

Wildlife Biologists	23
Fisheries Biologists	2
Botanists	3
Total Fish, Wildlife and Plant Staff	28

Number of:

Endangered species	24
Species proposed for listing as endangered	3
Threatened species	14
Species proposed for listing as threatened	1
Recovery Plans written (as a team member)	12
Recovery Plans being implemented	2
ESA Consultations (formal and informal)	15
Conservation Agreements written	3
Conservation Agreements being implemented	0

Number of projects since the beginning of FY 1993:

Partners In Flight (nongame birds)	24
North American Waterfowl Management Plan	4
Threatened/Endangered Species, wildlife	61
Threatened/Endangered Species, fish/mussels/snails	20
Threatened/Endangered Species, plants	42

Percent of fishable streams inventoried since FY 1993: 15

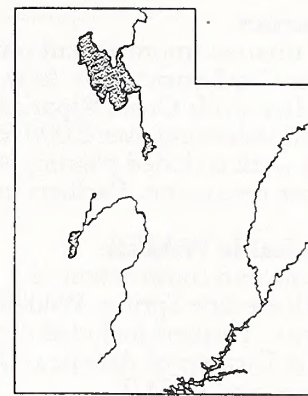
Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	26
Mountain Sheep	40
Nongame Migratory Bird Habitat	5
Raptor Habitat Management	21
Upland Game Bird Habitat Management	8
Watchable Wildlife	26
Waterfowl Habitat Management	41
Fisheries Habitat Management	20
Anadromous Fish Habitat Management	N/A
Resident Fish Habitat Management	11
Desert Tortoise	100
Rare Plants and Natural Plant Communities	40
Special Status Fishes	70

Percent terrestrial acres with degraded habitats: 22

Percent stream miles with degraded habitats: 43

Four known bald eagle nests were monitored and inventories conducted for new nest locations in southeastern Utah in the Moab District. The main purpose of the study is to determine the impacts of high recreational use and disturbance to the nesting eagles. This information will be used to determine management prescriptions for the Colorado Riverway area. Partners included Utah Division Wildlife Resources and the Canyonlands Raptor Center.



Monitor 10 Peregrine falcon nests primarily in southeast Utah for productivity. Partners included Utah Division Wildlife Resources and volunteers.

Bats - Masters of the Night Skies

The Spotted bat is a candidate species that is not well known in Utah. Two separate partners inventoried the spotted bat under two challenge cost share agreements. Utah State University was one of the partners and a private contractor was the other partner. One challenge cost share agreement will continue into FY 1995.

Desert Tortoise

A draft Habitat Conservation Plan for Washington County was completed and sent to the U.S. Fish and Wildlife Service for review. If accepted, BLM would become a lead agency in the protection and management of desert tortoise and other listed species in Washington County.

Special Status Plants

Monitoring of Welsh's milkweed and Dwarf Bear Claw Poppy continued in southern Utah. These are species which require continuous monitoring due to land use activities in the areas they occupy. Southern Utah University and Brigham Young University were partners on these projects.

Two Special Status Species plant surveys were completed in the Richfield District to provide occurrence, distribution, and management recommendations. The two species are *Scelerocactus wrightiae* and *Penstemon angustifolius dulcis*. Partners included Intermountain Ecosystems and Red Butte Botanical Gardens.

Wetlands

In the Vernal District the management and maintenance of the facilities on the 9,000-acre Pariette Wetland complex is ongoing. Currently, the Pariette Wetlands are producing about 1,600 ducks and 60 Canada Geese annually. In 1994 the water delivery system was improved to provide a constant flow of water to ensure sufficient brood-rearing habitat. Two additional brood-rearing ponds were constructed.

Big Game

Meadow Spring juniper control, Pine Canyon uplands seeding, and Sage Valley wildlife guzzler projects were completed to improve the quantity and quality of mule deer and elk habitat in the Richfield District. Partners included the Rocky Mountain Elk Foundation.

Accomplishments:**Special Status Animals**

Mexican spotted owl inventories, monitoring, and prey base studies were conducted. The various studies focused on known or suspected spotted owl habitat in central and southern Utah. Partners included the Forest Service, Park Service, and National Biological Service.

Riparian

Two riparian improvement projects were completed in the Cedar City District. The Asay Creek Stabilization Project and the Henrieville Creek Riparian Improvement Project included stabilizing over 2,000 feet of streambank. Improvement work included planting willow cuttings and constructing juniper revetments. Partners included 35 volunteers.

Watchable Wildlife

Fencing and construction of a parking lot was completed for the Horseshoe Springs Wildlife Viewing area in the Salt Lake District. Partners included the Tooele Wildlife Federation, Future Farmers of America, Utah Division Wildlife Resources, and USPCI.

Utah's Cedar City District developed 2 signs and a kiosk for 2 Watchable Wildlife areas. The Field Checklist of Utah Birds was updated by the District Biologist and published by the State Office.

Resident Fish/Riparian

Intense efforts to stabilize a 1/4-mile section of Otter Creek were conducted for a second year in the Richfield District. Cottonwood pole plantings (23) and willow shoot plantings (1,000) combined with fencing and bank stabilization are helping to heal deteriorated riparian and fisheries habitat. Boy Scouts and Future Farmers of America helped with this project.

Recreational Fisheries

The Vernal District, in cooperation with the U.S. Forest Service and Utah Division of Wildlife Resources, is developing a management plan for the nationally known blue ribbon trout stream below Flaming Gorge Dam to the Colorado - Utah border. Fishing and recreation pressure is becoming extreme at times, causing conflicts between fishermen and boaters.

Bring Back the Natives

In the Book Cliffs Initiative Area, through matching funds from the *Bring Back the Natives* program and the Utah Division of Wildlife Resources, three gap fences along Bitter Creek were constructed to control livestock use along the riparian bottoms to protect the year-long reliable streams.

Big Game

In the Cedar City, Vernal, Moab, and Richfield Districts, 13 new water catchments were constructed for big game. These water sites will expand big game habitat by 25,000 to 30,000 acres by providing a reliable year-round water supply.

Upland Game Birds

Chukar partridge that occupy the habitat around Painter Springs, Richfield District will benefit from the provision of reliable year-round water now that the spring overflow pond has been protected. Young Chukar will also benefit from the lush vegetative growth and increased insect populations.

Raptors

In the Salt Lake District, volunteers assisted with inventory of about 3,500 acres in the Pilot Mountains to investigate raptor mortality in PVC pipe used for marking mining claims. The data collected, in combination with that of an anonymous individual, indicated that there were 7 avian mortalities in the 17 PVC pipes checked which were attached to trees. The species involved were 4 Western Screech-owls, 2 American Kestrels, and one Pinyon Jay. Actions are being taken to remove the markers and prevent the future use of open-ended PVC pipe for claim makers on public lands.

Nongame Birds

Utah's Cedar City District completed 6 Breeding Bird Survey routes and monitored approximately 26,000 acres of nongame bird habitat.

Needs:**Plants**

Continue inventory and monitoring efforts associated with Welsh's milkweed in a challenge cost share agreement with Dr. Brent Palmer of Southern Utah University. (\$25,000)

Continue inventory and monitoring efforts associated with dwarf bear-claw poppy in a challenge cost share agreement with Dr. Kimball Harper, Brigham Young University. (\$30,000)

Desert Tortoise

Begin implementation of Desert Tortoise Recovery Plan. Review suggested projects and determined where to prioritize efforts. Potential partners and total expenditures are still being finalized.

Special Status Fish

Continue to study effects of proposed or authorized BLM actions on Colorado River fishes, especially the potential effects of water withdrawal from the Colorado River system. This will essentially be an in-house effort involving the Moab and Vernal Districts with coordination with the Fish and Wildlife Service and Utah Division Wildlife Resources. (\$100,000)

Conduct inventory and monitoring of resident special status fishes in the central Utah area where the quality of habitat continues to deteriorate. (\$30,000)

Wetlands

Continue management and maintenance of Pariette Wetlands. Maintenance of water control structures, managing water levels, and periodic counts of bird use will be completed. (\$750,000)

Special Status Animals

Continue bald eagle nest monitoring along the Colorado River in southeastern Utah to determine effects of heavy recreational use on bald eagle nesting success. (\$7,000)

Inventory Southwestern willow flycatcher habitat in southeastern Utah. (\$10,000)

Big Game

Big game habitat improvements to support mule deer and elk at levels compatible with resource objectives and habitat potential are badly needed. Large scale habitat manipulations, water developments, and hazard reductions are needed to reduce mortalities. Because of the extremely small wildlife budget, only limited habitat improvements can be undertaken in FY 1995. (\$55,000)

Watchable Wildlife

Develop Horseshoe Springs Wildlife Viewing Area and Showcase Habitat Management Plan Area. This will include fencing, diking, signing, parking area, and a board walk. (\$95,000)

WYOMING FISH, WILDLIFE AND PLANT FACTS

Total state acreage:	62,343,000
Acres of BLM lands:	18,417,000
Miles of fishable streams on BLM lands:	2,752

Number of BLM:

Wildlife Biologists	25
Fisheries Biologists	4
Botanists	2
Total Fish, Wildlife and Plant Staff	31

Number of:

Endangered species	11
Species proposed for listing as endangered	0
Threatened species	2
Species proposed for listing as threatened	0
Recovery Plans written (as team member)	7
Recovery Plans being implemented	10
ESA Consultations (formal and informal)	42
Conservation Agreements written	7
Conservation Agreements being implemented	7

Number of projects since beginning of FY 1993:

Partners In Flight (nongame birds)	22
North American Waterfowl Management Plan	30
Threatened/Endangered Species, wildlife	17
Threatened/Endangered Species, fish/mussels/snails	11
Threatened/Endangered Species, plants	19

Percent of fishable streams inventoried since FY 1993: 14

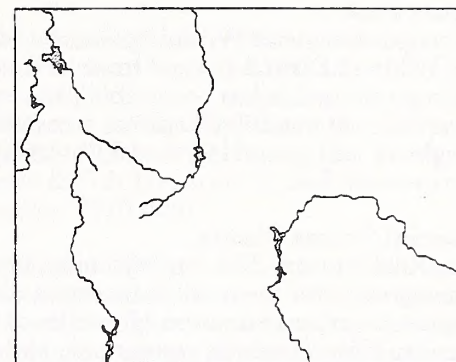
Percent of species in the following National Strategic Plans with an inventory of any size or scope:

Desert Bighorn Sheep Habitat Management	N/A
Mountain Sheep	23
Nongame Migratory Bird Habitat	4
Raptor Habitat Management	24
Upland Game Bird Habitat Management	26
Watchable Wildlife	17
Waterfowl Habitat Management	31
Fisheries Habitat Management	34
Anadromous Fish Habitat Management	N/A
Resident Fish Habitat Management	31
Desert Tortoise	N/A
Rare Plants and Natural Plant Communities	25
Special Status Fishes	25

Percent terrestrial acres with degraded habitats: 45

Percent stream miles with degraded habitats: 53

raptor nesting habitat, and on 126,000 acres of winter bald eagle habitat.



The Kemmerer Resource Area inventoried 80,000 acres of raptor nesting habitat, especially Ferruginous Hawk locations, in

priority areas with high potential for future minerals development. With the assistance of contract biologists for oil and gas developments, more than 250,000 acres were inventoried or monitored in the District.

Watchable Wildlife

The Rock Springs District reconstructed a protective fence on the 55-acre Duck Creek Watchable Wildlife Area.

Environmental Education

The Rock Springs and Rawlins Districts updated and reprinted their District fishing maps, both popular items with tourists and visitors.

Bring Back the Natives/Riparian

The BLM teamed up with the Forest Service, Wyoming Game and Fish Department, local and Chicago chapters of Trout Unlimited, local permittees and landowners to design and implement projects for Colorado River cutthroat trout on LaBarge Creek near Pinedale. LaBarge Creek is a national showcase *Bring Back the Natives* project.

Interdisciplinary teams are analyzing vegetation transects within crucial big game winter ranges and proper functioning condition surveys on streams in all Wyoming districts. The data will be used in management of riparian vegetation. Over 70,000 acres of winter range and 50 miles of stream have been completed in the Rock Springs District alone.

Upland Game Birds

Over 49,000 acres of potential Sage Grouse lek sites and nesting habitat were inventoried in Wyoming's Worland District. Volunteers contributed 100+ hours of effort. A collaborative effort among the Wyoming Game and Fish Department, two local volunteers, and the BLM was made to monitor trends in Sage Grouse populations and activities on 125 known leks.

Mountain Sheep

In the Lander Resource Area, Wyoming, efforts are underway between BLM and The Nature Conservancy to acquire up to 2,500 acres of bighorn winter range. The Nation's largest Rocky Mountain bighorn herd resides on public lands and these acquisitions will help ensure the long-term survival of this important herd.

Bats - Masters of the Night Skies

Ten bat houses have been placed in 2 areas in Rawlins, Wyoming, to encourage bats to roost in the area, and an agreement is being developed with the city of Laramie to build and place bat houses. The project is hoped to offer an alternative in the area to spraying for mosquitoes, which is a threat to the Endangered Wyoming Toad.

Accomplishments:**Big Game**

In the Rawlins District 20 acres of elk calving habitat were improved by a road rehabilitation project, and continuing seasonal road closures. In addition, 2,900 acres of recently burned fall/winter deer habitat were replanted with bitterbrush seedlings.

Raptor Management

Volunteers contributed over 700 hours to help conduct surveys and inventories on 16,000 acres of Worland District

Sport Fish

In cooperation with Wyoming Game and Fish Department, the Worland District stocked trout in an abandoned bentonite open pit mine that has been rebuilt to form a wetland complex. About 300 Christmas trees were bundled, weighted, and placed in Wardel Reservoir to provide cover for warm-water fish.

Special Status Plants

The Rock Springs District, Wyoming, began implementing management for the small rockcress, a candidate species. Replacement and extension of 4 miles of protective enclosure fencing, off-road vehicle restrictions, and mineral withdrawals were implemented in the Habitat Management Plan area. The District also completed status surveys on 8,000 acres of special status plant species through a challenge cost share project with The Nature Conservancy.

Special Status Animals

In the Washakie Resource Area in Wyoming, six peregrine falcons were released, in cooperation with the Peregrine Fund.

Wyoming continues to cooperate with the U. S. Fish and Wildlife Service and Wyoming Game and Fish Department to maintain a wild population of black-footed ferrets. There have been several habitat evaluations prior to reintroductions and monitoring efforts to determine success of releases. Wild ferret litters have been born for the past three years in Shirley Basin (Rawlins District). Nearly 300 adult black-footed ferrets have been released on BLM public lands over the last 4 years.

Wetlands/Waterfowl

The Great Divide Resource Area constructed two wetland projects, the North Tipton and Red Desert No. 1 wetlands. These developments are designed for waterfowl as stop-over during fall and spring migration, and for nesting habitat. Spreader dikes will form several shallow water areas for waterfowl use, providing 44 acres of waterfowl habitat.

Needs:**Special Status Plants**

The precocious milkvetch, a candidate species for listing, occurs adjacent to an old dump site. Reclamation of the old dump is currently 75 percent complete. A back country access road also passes through potential habitat of this species. To provide adequate protection for this special status plant, BLM will build a fence to protect the entire known population. (\$10,000)

The Rock Springs District has set up an inventory/monitoring program for special status plants. Of the 18 species identified in the District, 8 species still need surveys. For FY 1996, 3 species would be surveyed for population size and distribution. (\$13,500)

BLM needs to finish the inventory efforts in the Lander and Great Divide Resource Areas (district-wide) for sensitive and unique plant communities. The inventories would provide valuable information on species abundance and distribution, and would be essential in mitigating potential development proposals. The inventories would be conducted by The Nature Conservancy and would be done on a cost-share basis. Partners include The Nature Conservancy and the University of Wyoming - Department of Botany. (\$20,000)

Special Status Fish/Riparian/Big Game

The Currant Creek/Sage Creek Habitat Management Plan National Showcase project is to be implemented over a 6-12 year period. The plan uses an interdisciplinary approach affecting the entire watershed and beyond. The objectives are to restore crucial habitat for Colorado River cutthroat trout and maintain the area's biodiversity. In FY 1995, BLM will fence key riparian pastures to provide better management of key drainages. Volunteer groups will maintain instream structures and riparian enclosures. When completed, the entire project will have enhanced 118,000 acres of diverse habitats. Partners in this Habitat management plan implementation include the Wyoming Game & Fish Department, Rocky Mountain Elk Foundation, livestock permittees, Trout Unlimited, Sweetwater Wildlife Association and Bowhunters of Wyoming. In 1995, BLM will spend \$10,000, and partners \$10,000. (\$50,000/1 FTE)

Thomas Fork/Smiths Fork Aquatic Habitat Management Plan. Unless work is done to improve habitat and survival of the Bonneville cutthroat trout, this special status fish will be listed as threatened. Enclosures need to be consolidated and upgraded. Raymond Canyon needs to be closed for 5 years and most of the other creeks supporting the trout need tough utilization measures imposed, or fences, to rest the area from grazing. BLM also proposes a 3 year graduate study on fish response/recovery inside and outside of fenced enclosures and Raymond Canyon. Partners include Wyoming Game & Fish Department, Trout Unlimited, Bridger-Teton National Forest, and the University of Wyoming. (\$30,000)

Resident Fisheries/Riparian

Completion of the South Pass Riparian and Fisheries Habitat Management Plan is the foundation for several other resource management actions that have been planned in the historic South Pass area. This Habitat Management Plan is needed as an overall plan for several CRMP's and AMP's currently being developed and evaluated in the Lander Resource Area. The goal of this Habitat Management Plan is to protect the riparian and aquatic habitat in this highly scenic and sensitive region. BLM funding in 1995 will amount to only \$2,000. (\$100,000/1 FTE)

Rawlins District needs to complete PFC assessments on the rest of the riparian habitat areas in the Lander and Great Divide Resource Areas (district-wide) that have not been completed to date. (\$45,000)

Big Game/Watchable Wildlife/Tourism

The National Pronghorn Antelope Interpretive Center, a long-term, high profile project being built along I-80 near Rawlins, Wyoming, at the edge of the Red Desert to educate the public about the pronghorn antelope and its habitat in North America. Partners in this cooperative effort include the City of Rawlins, the Wyoming Game and Fish Dept., Carbon County, various agricultural interests, both the Wyoming and National Wildlife Federations, the North American Pronghorn Foundation, and Union Pacific Resources. In 1995 BLM funding has amounted to \$35,000 and one FTE. Total funding for planning and contributions by all partners is expected to be in the neighborhood of \$10 million.

Watchable Wildlife/Riparian/Special Status Plants

The Jack Morrow Hills project will result in the development of an interdisciplinary plan (range, recreation, cultural, oil/gas) that will be completed in FY 1995. This will include mineral leasing, riparian and uplands projects, and designation of a Back Country Byways-Watchable Wildlife route. Field work in FY 1995 will include a floristic inventory and

special status plant survey of the area. Partners in this effort include the Wyoming Game & Fish Department and The Nature Conservancy. (\$80,000)

Bighorn River Habitat Management Plan Implementation. The Yellowtail Tracts 4 and 5 fence project is designed to restrict grazing and protect riparian habitat, including potential bald eagle nesting habitat and Shoshone River wetland habitat. The Wyoming Game and Fish Department has already constructed a similar fence on an adjacent river tract and would maintain this fence under the Yellowtail Habitat Unit Coop Agreement. (\$5,000)

Environmental Education/Wetlands/Waterfowl

The Duck Swamp Environmental Education Area has become inundated with cattails and other invading vegetation. In the past two years the Bureau has been using a herbicide to kill accessible cattails and burning the cattails out in the winter to clear the area for increased use by waterfowl. Partners in this effort include the Washakie County Weed and Pest District and adjoining landowners. BLM funding in 1995 will be approximately \$2,000. (\$12,000)

Big Game/Riparian/Seeking Common Ground

The Horse Creek Coop Habitat Study Project has been analyzing forage utilization and overlap of use on 12 grazing allotments covering about 35,000 acres in the Bighorn Basin of northcentral Wyoming. Several AMPs have been developed and signed to implement grazing management strategies that will benefit wildlife, improve range and riparian habitat conditions, and reduce wildlife damage to private croplands. Planned projects include several more prescribed burns, 3 or 4 additional water developments, and fencing. The BLM, Wyoming Game & Fish Dept., the Rocky Mountain Elk Foundation, and grazing permittees have all invested considerable time and money in this effort. (\$150,000)

The Red Creek Watershed Treatments, adjacent to the Currant Creek/Sage Creek Showcase area, is crucial deer and elk range, recent historic habitat for the Colorado River cutthroat trout and a geologic erosion watershed. The allotment is to be rested for two years and the adjacent landowner is interested in doing cooperative habitat improvements and agreements to improve the ecosystem. Work would include prescribed burn treatments and riparian restoration. Partners include Private landowners, Wyoming Game & Fish Department, and the Rocky Mountain Elk Foundation. (\$20,000)

Special Status Species/Wetlands

As a part of the Upper Green River Habitat Management Plan, trumpeter swan cygnets will be released in the New Fork Potholes area to expand the range of the Tri-State population (Idaho, Wyoming, Montana). Three nesting islands will be constructed and planted with protective vegetation in the pothole pond where the swans are being released. Partners in this effort include the Wyoming Wetlands Society, the Wyoming Game & Fish Department, the U.S. Forest Service, and private landowners. (\$175,000)

Big Game

Big Piney-LaBarge Coordinated Activity Plan in Pinedale Resource Area: Vegetation treatments of 6,000 acres of winter ranges using prescribed burning to enhance forage production and lure elk away from feedground situations which promote the spread of brucellosis among elk. Partners include Wyoming Game & Fish Department and Rocky Mountain Elk Foundation. (\$10,000)

The Moxa-Arch Cooperative Mitigation Plan is a challenge cost-share project to develop and implement a comprehensive plan to replace or enhance pronghorn antelope crucial winter range in an area under intense energy development. During 1995, BLM will inventory about 100,000 acres of the designated winter range area and begin identifying potential habitat improvement sites. Partners in this multi-faceted project include Union Pacific Resources, Amoco, Wexpro, Celsius, Questar, Washington Energy, Williams Field Service, private landowners, Wyoming Game & Fish Department and U.S. Fish and Wildlife Service Cooperative Research Unit. In 1995, BLM funding will be \$17,000, and Partners will contribute \$20,000. (\$150,000/2 FTE's)

The Laramie Peak Bighorn Sheep Habitat Management Plan (HMP) includes the completion of 15 site specific burns to improve bighorn sheep habitat quality and quantity within the next 10 years. The overall goal of this HMP is to improve habitat and recreational use of the Laramie Peak bighorn sheep herd. Partners in this effort include the Wyoming Game and Fish Department, the U.S. Forest Service, and adjacent landowners. (\$125,000)

The Grass Creek Habitat Rehabilitation will continue prescribed burns for the next 5 years in this drainage. This project provides increased forage for both livestock and elk. Partners include the Rocky Mountain Elk Foundation, and Wyoming Game and Fish Department. (\$40,000)

The Upper Green River Habitat Management Plan/Spade Prescribed Burn will treat 1,000 acres of riparian habitat within elk winter range and mule deer transition range and help with livestock distribution in association with riparian improvement. (\$10,000)

The Enos Creek Divide Fence Modification was half completed after FY 1994. This old, sheep-tight fence currently creates a barrier to movement of young big game animals. This fence has been a high priority habitat modification of the Wyoming Game and Fish Department for a number of years. (\$7,500)

Rock Springs District Vegetation Monitoring. Completion of the inter-disciplinary vegetation inventory and analysis of habitat condition within crucial big game ranges (district-wide) is expected by FY 1996. Partners include Wyoming Game & Fish Department, allotment permittees, and Wyoming Sportsman Association. (\$15,000)

Waterfowl and Wetlands Habitat Management

The Wheat Creek Meadows project will construct a wetlands complex including 5 pair ponds for waterfowl and neotropical birds. Development of outdoor classroom and interpretation of site. Partners include Ducks Unlimited, Kemmerer School District, and Wyoming Game & Fish Department. (40,000)

Upper Green River Habitat Management Plan/New Fork Potholes Nesting Islands. Construction of 10 nesting/resting islands on natural pothole wetlands. Partners include Ducks Unlimited, Wyoming Wetlands Society, Bridger-Teton National Forest, and Wyoming Game & Fish Department. (\$15,000)

Loch Katrine is a wetlands habitat management project expected to improve habitat for many waterfowl and shore-bird species, increase available nesting habitat, improve nesting success rates, and provide for a more biodiverse wetland area that will benefit many wildlife species, including several special status species. This project area will also provide increased recreational opportunities for both consumptive and nonconsumptive wildlife uses including hunting, viewing, photography, and education. Planned projects include: construction of additional pair ponds; extension of separation dikes; installation of additional water control structures; construction and installation of additional nesting structures; construction of deep water channels and potholes to add diversity to densely vegetated marsh areas; and development of a travel management plan for the area. Partners in this project include the U.S. Bureau of Reclamation, the Wyoming Game and Fish Department, and Ducks Unlimited.

The Green River Ecosystem Wetlands Program/Elkol Reservoir already has well developed wetlands, but is in danger of being lost through dam washout. Project work would be repair of spillway and riprapping the dam. (\$15,000)

Big Game/General Wildlife

Cumberland Vegetation Treatment Program. Habitat treatment needs and priorities are being developed in FY 1995 by the technical group for the Cumberland Allotment steering committee. The area is crucial winter habitat for the Wyoming Range deer herd. The program will consist of a variety of different vegetative treatments done over a number of years that will be designed to establish a mosaic of different vegetation age classes. Partners include allotment permittees, Wyoming Game & Fish Department, BLM Slat Lake District, Rocky Mountain Elk Foundation, and Medicine Butte Wildlife Association. (\$20,000)

General Wildlife

Research on Oil/Gas Effects on Wildlife: collect pre-field development information on big game, raptors, sage grouse and other wildlife distribution and use. (\$25,000)

The Rock Springs District Wildlife Inventory/Monitoring project will collect the inventory efforts of the unsurveyed areas of the district for prairie dog colonies, special status birds, and raptors. BLM will computerize all outstanding wildlife, fish, and plant study and survey information on a district-wide GIS and database compatible with the BLM database system for wildlife and vegetation data analysis. (\$80,000)

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